



FLIGHT

The
**AIRCRAFT
ENGINEER
&
AIRSHIPS**



First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport
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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

1926	
Aug. 9-15	French Light 'Plane Competition.
Aug. 21-22	Bournemouth Race Meeting.
Sept. 10-18	Two-Seater Light Aeroplane Competition, Lympne.
Sept. 12	Race Meeting at Prague.
Sept. 18	Grosvenor Challenge Cup, at Lympne.
Oct.	Schneider Cup Race at Norfolk, Virginia, U.S.A.
Oct.	Stefanik Prize Race at Prague.
Oct. 24-28	Coppa del Mare, Italy.
Nov. 11-15	Coppa d'Italia, Italy.
Nov.-Dec.	Paris Aero Show.

EDITORIAL COMMENT.



TWO separate reports upon Civil Aviation have come to hand during the last few days. One is that entitled "Annual Report on the Progress of Civil Aviation," issued by the Directorate of Civil Aviation, Air Ministry, and the other is a fascinating volume bearing the title "Report on Civil Aviation," which includes reports of civil operations for other Government Departments, undertaken by the Royal Canadian Air Force for the year 1925, and is published by the Department of National Defence, Ottawa. Both these annual reports are extremely interesting, and, incidentally, they invite comparison.

The Air Ministry Annual Report, as usual, gives a number of statistics relating to the use of air travel. The Canadian Report, while furnishing plenty of facts and figures, gives something more, and can, perhaps, be described as a much more "human" document, in spite of its official parentage. Doubtless this is in some measure due to the very nature of civil aviation in Canada, which is, to a very large extent, concerned with aerial surveying, fighting forest fires, forestry patrols, and suchlike "picturesque" occupations, while at home—outside "joy-riding," air taxi work, sky-writing, and a certain amount of surveying and photography—civil aviation seems to consist mainly in doing just so much flying as is necessary to earn the subsidy and no more, most of the passengers being still, one suspects, people who use the air lines for the "thrill" which they manage to derive from it, not to mention the satisfaction to be got out of boasting to friends afterwards about the flights. Certainly the report for 1925-26 does not show much progress in the directions which count: Empire air communications, London-Paris-Basle-Zurich, London-Ostend, London-Cologne, and London-Amsterdam still marking the extent of our achievements in the air, even if not actually the limits of our secret ambitions. A thousand pardons. We are wrong. There is one more route: the Southampton-Channel Islands one, which, according to the report, is operated weekly (from

November 11, 1925). We wonder if this should be any chance be a misprint and should have read "weakly"?

In the notes dealing with the report given in this issue of FLIGHT space is not available to publish the tables of statistics, but the official summary of these tables is given, being, according to the report, "a summary of the principal facts revealed by these tables." A careful perusal of the tables might reveal quite a number of other facts which were of interest, although possibly in some cases less reassuring deductions might result.

Thus in Table A, dealing with British Civil Aviation, the number of passengers carried is seen to be 14,675, as against 13,478 in the previous year, an improvement of more than 1,000. But if one turns to Table B, which gives the total number of passengers carried between Great Britain and the Continent, it is found that this greater number of passengers actually represents only 52 per cent. of the total carried, the foreign air lines having carried the remaining 48 per cent., while in the previous year the British percentage was 58 per cent., the year before that 79 per cent., and in 1920 as much as 92 per cent. Thus, in spite of the steadily growing increase in the number of passengers, there is little cause for complacency as far as the British share is concerned.

The effect of the "horse-power miles" basis, which has been in force since last December, is reflected in the tables, since the greater number of passengers has been carried in fewer machine flights, *i.e.*, 4,461, as against 4,677 machine flights for the previous year. The machine mileage also shows a reduction, from 890,000 to 865,000. This, of course, is a result of the use of larger machines, *i.e.*, machines carrying more passengers. The fact that a machine like the de Havilland 50 (which is exceptionally economical and comes nearer being a paying proposition than many others) is penalised under the "horse-power mileage" system, seems to have been overlooked.

"Joy-riding" figures show a most gratifying increase, the number of passengers that have been carried during the year reaching the imposing total of 67,329, this being a "record," the best previous year in this class of flying being 1920, when the number was 66,102. The machine-miles flown in "joy-riding" is very much less, being only 169,000, as against 524,000 for 1920, which seems to indicate that "flips" are getting shorter. This excellent increase is all the more remarkable when it is remembered that the joy-riding concerns work entirely without Government subsidy.

From the safety point of view the year has been extremely good as regards British civil aviation, not a single accident having occurred which resulted in death or serious injury, and this applies to the British air lines as well as to joy-riding. At the same time, only one accident to a foreign aircraft occurred during the period under review, one passenger being killed and one seriously injured.

The efficiency of British subsidised air services is dealt with in table D, and the total "efficiency" for the 12 months is shown to have been 93 per cent., as compared with a figure of 94 per cent. for the previous year. The highest efficiency was reached in the months of April and June, 1925, when 98 per cent. of flights were completed uninterrupted. The lowest figure is that for January, 1926, when the efficiency was only 80 per cent. On the face of it these figures

are excellent, but when one comes to look at them a little more closely it is found that the old system of basing the "efficiency" upon percentage of flights completed to flights commenced is still in force. This, as we have repeatedly pointed out, is no criterion at all of the regularity of the services since, by refusing to send machines off in anything but perfect weather, it is quite easy to reach an efficiency of 100 per cent. We do not, of course, for one moment suggest that this policy has been followed. As a matter of fact, it is well known that flying has repeatedly been carried out successfully in very bad conditions. But this does not alter the fact that the method of expressing the efficiency is fundamentally wrong. The only criterion which is of any real use is the proportion of flights completed to flights *scheduled*.

Statistics of the number of involuntary landings show that in the period April, 1925, to September, 1925, the number of involuntary landings from all causes represented 5 per cent. of the total flights commenced, of which 42 per cent. were due to weather, 42 per cent. to engine or installation failure, and 16 per cent. to other causes. In the period October, 1925, to March, 1926, there were 13 per cent. of flights interrupted, 60 per cent. on account of weather, 25 per cent. due to engine or installation failure, and 15 per cent. due to other causes.

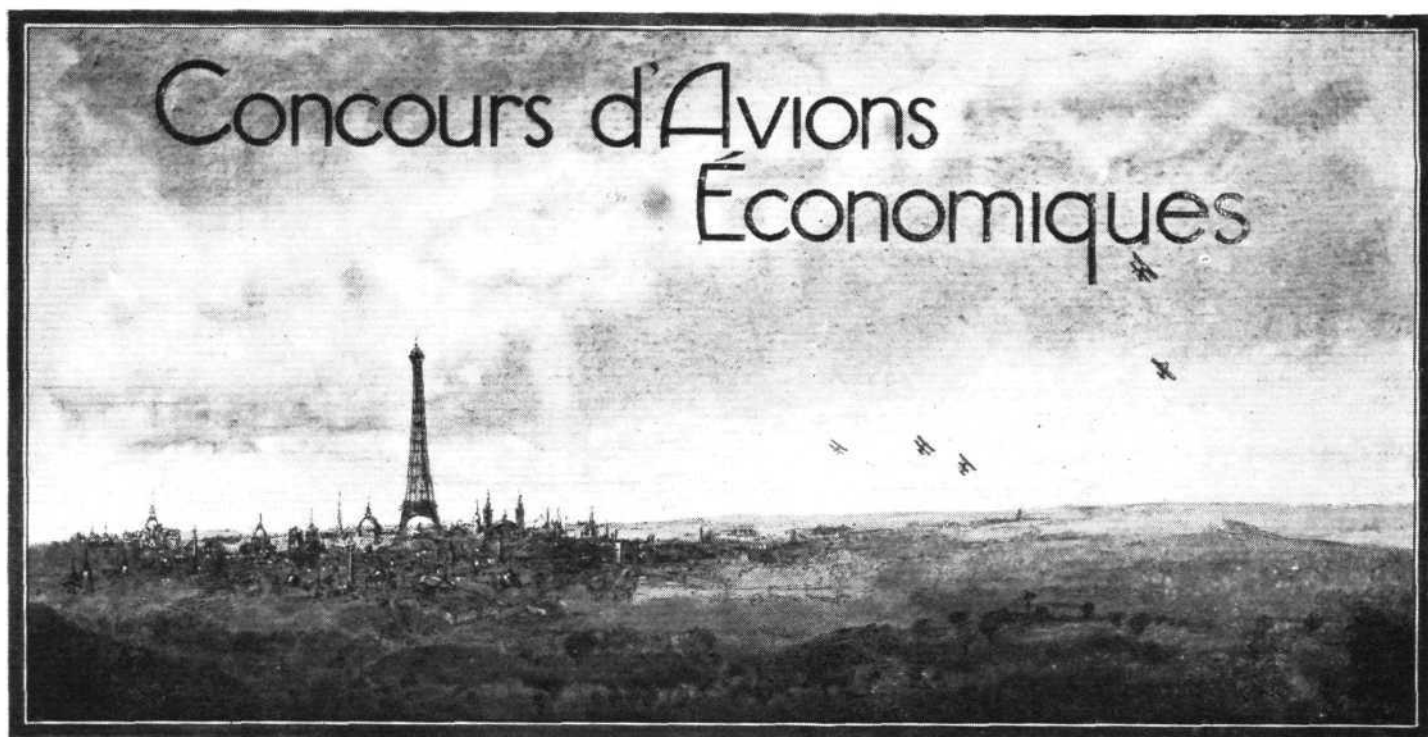
As regards the flying stock in use on the air lines, the report discloses the fact that this consists of a total of 14 machines, with a total seating accommodation of 178 and a pay-load capacity of 37,000 lbs., certainly not very imposing figures for a "million pound monopoly company."

Turning now to the progress of aviation in Canada, space does not permit of lengthy comment on the report, but perhaps the whole spirit of Canadian aviation may be indicated by the following quotation from its pages: "It is noteworthy that, while in practically every other country the main effort has been the operation of state subsidized or operated air services for the carriage of passengers, mails or express, development in Canada has been on quite different lines. Up to the present, in Canada flying has been used principally as an improved method of observation. Straight transportation work has been subsidiary to this, and has been undertaken only when other modern facilities were lacking. This development, peculiar to Canada, arose from natural conditions existing in this country after the armistice. Foresters, surveyors and those charged with the administration and development of the outlying districts had watched the progressive growth, in capacity and efficiency, of aircraft during the war. They were fully alive to the possibilities of aircraft for increasing the efficiency of their services. There was, therefore, an immediate demand for aviation in these lines of work the moment men and machines were available to develop them. It was accordingly decided to concentrate on those services for which there was an immediate need: in forestry and aerial surveying; in transportation to the remoter parts of the country."

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A New Italian Air Line

A NEW Italian air line was inaugurated on August 1, linking Brindisi with Athens and Constantinople. At present the service is weekly and is limited to the transport of mails and freight. Later the service will be more frequent and passengers will be carried, whilst it will probably be extended.



BY THE TECHNICAL EDITOR.

Orly, Monday August 9, 1926.

TO-DAY is the first day of the French light 'plane competition which is being held at Orly, south of Paris, or rather the day on which the machines have to be presented to the judges fully erected. When we arrived on the aerodrome this morning the very excellent hangar in which the competition machines are housed was less than half full, only eight machines out of the 17 entered having arrived. Enquiries elicited the fact that the two Pander machines were not expected to turn up, while the two Italians were known to be on a train "somewhere in France" and were "incessantly expected." The Albessard monoplane was not expected to be ready in time while the Caudron was out of the running, due, it was reported, to the refusal of the French *Section Technique* to grant the new 60 h.p. Salmson engine a provisional airworthiness certificate. The Farman machine was also conspicuous by its absence, while it was thought that No. 17, the twin-engined de Monge with Bugatti engines might turn up about two minutes before the hour of 3 p.m. set as the limit for the arrival of machines. Captain Broad's de Havilland "Moth"

was another absentee, and as but two British machines have been entered it begins to look as if upon Mrs. Elliott-Lynn will devolve the duty of representing Great Britain. Incidentally the participation of a machine to be piloted by a British lady pilot has captured the imagination of the French to a quite surprising extent, and to-day one heard repeatedly the remark about this well-known British aviator: *Elle est tres sport.*

A census of the hangar failed to reveal more than eight machines ready for the beginning of the competition, and as the de Monge had not put in an appearance at 3 p.m., that is actually the number of competitors left to start the eliminating trials at 8 a.m. to-morrow morning.

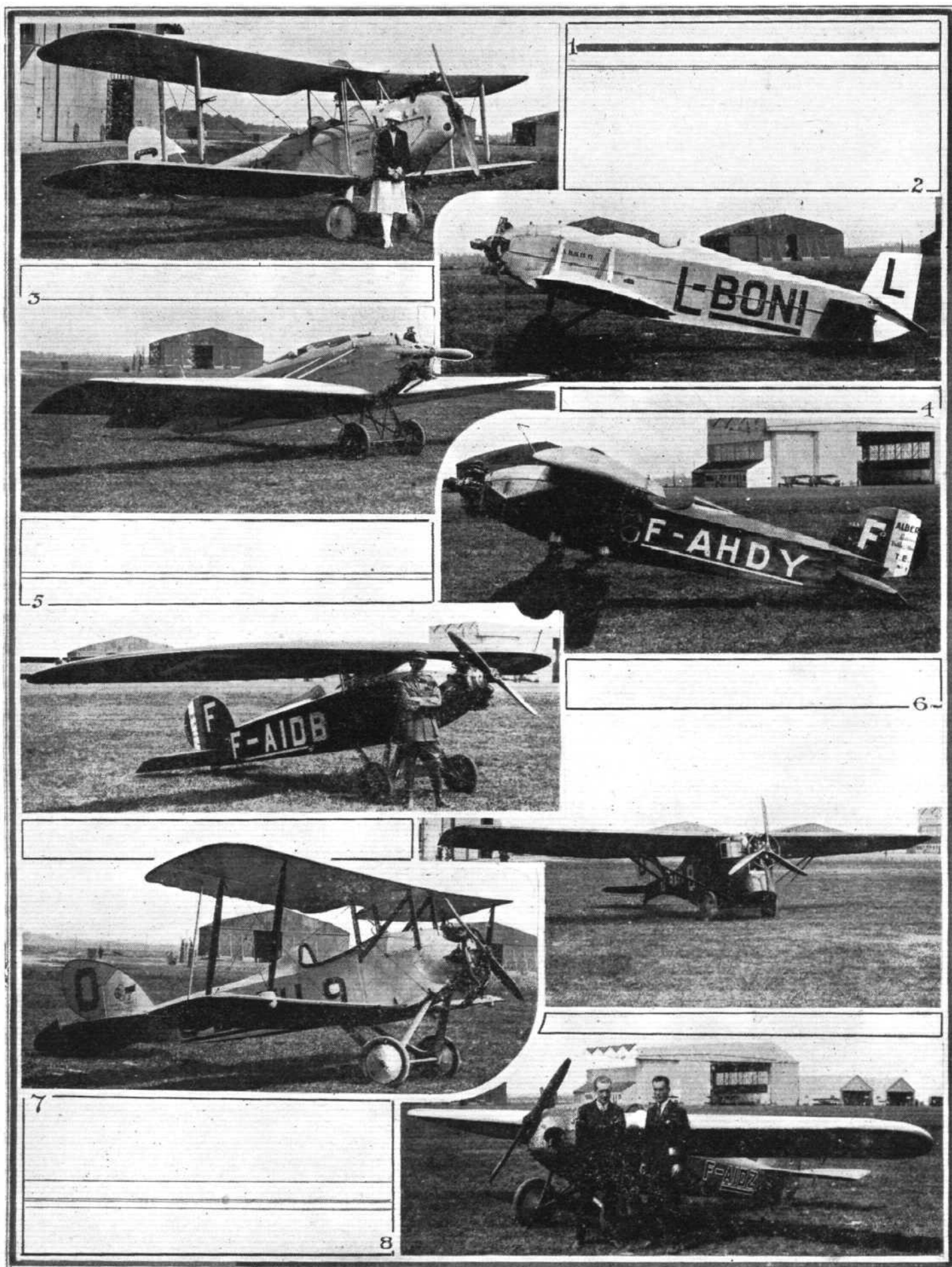
The Machines

No. 1, the de Havilland "Moth" entered and to be flown by Mrs. Elliott-Lynn, carries the registration letters G-EBKT. The machine is already well known to our readers. Suffice it to say that in the competition the machine will carry a certain amount of extra load in the form of two parachutes, for the carriage of which marks are awarded.



["FLIGHT" Photographs]

THE FRENCH LIGHT 'PLANE COMPETITION AT ORLY: On the left is seen the French ex-Under-Secretary for Air, M. Laurent Eynac, with M. Carlier, introducing the Czechoslovak pilots. On the right, MM. Carlier, Fortant, and Col. Goys discuss the Czechoslovak entries.



["FLIGHT" Photographs]

THE FRENCH LIGHT PLANE COMPETITION AT ORLY : The eight competing machines : 1. No. 1, D.H. "Moth," with its pilot, Mrs. Elliot-Lynn. 2. No. 4, Avia B.H.11 (pilot, M. Fritsch). 3. No. 5, Avia B.H.11 (pilot, Dr. Lhota). 4. No. 6, Albert T.E.1 (pilot, Descamps). 5. No. 7, Albert T.E.1 (pilot, Thoret). 6. No. 8, Demonty-Poncelet D.P.1 (pilot, Wouters). 7. No. 9, Demonty-Poncelet, "Cambgùl II" (pilot, Van Opstal). 8. No. 16, Roques-Lefolcalvez (pilot, Roques or Lefolcalvez).

Nos. 4 and 5, the Czechoslovakian representatives, carry the registration letters L-BONI and L-BONK respectively. They are Avia B.H. 11 low-wing monoplanes, with Walter engines, and appear identical with the type already described in *FLIGHT*, and on which Dr. Lhota, who will pilot one of them in the competition, has done so much cross-country flying in Europe.

Nos. 6 and 7, the Albert-Tellier monoplanes, are fitted with 40 h.p. Salmson radial engines. One machine, No. 6, (F-AHDY) is the identical one on which, recently, Lieut. Thoret flew from Warsaw to Paris non-stop, and will be piloted in the competition by Thoret. The other Albert is identical except for the colour of its varnish, which is red and the identification letters which are F-AIDB. These machines make an

excellent impression, and No. 7 was stunted to-day by its pilot, Descamps, in a very impressive manner.

Nos. 8 and 9, the S.A.B.C.A. machines, otherwise Demonty-Poncelet are the same that were at Vauville last year. No. 8, O-BAFL, is the totally enclosed monoplane with 45 h.p. Anzani engine, while No. 9, O-BAFU, is the biplane which came to grief at Vauville but has now been repaired. This has a 60 h.p. Anzani engine.

No. 16 is entered as a French machine and carries the letters F-AIDZ, but is seen to be a Pander monoplane with Anzani Y type engine. The explanation is found to be that it has been built in France under licence by Messrs. Roques and Lefolcalvez, both of whom are entered for piloting it in the competition.

whose pioneer work contributed so much to the development of lighter-than-air craft in this country.

"SAMUEL HOARE, Secretary of State for Air."

"Model Engineer" Exhibition

THE eighth of the series of popular *Model Engineer* Exhibitions opens on September 17 at the Royal Horticultural Hall, Westminster, closing on Saturday, September 25.

French Competition for Transport Seaplanes

THE National (French) Competition for transport seaplanes just concluded has resulted in two machines—the only ones to qualify—fulfilling the conditions. These are: (1) The "Météore" (three 180 h.p. Hispano), piloted by Burri, first prize of 100,000 fr.; (2) the Lioré-Olivier (three 380 h.p. "Jupiter"), piloted by Lieut. Benoit, second prize of 20,000 fr.

The Napier "Lion's" Triumph

IT is interesting to note in connection with the Napier "Lion's" latest success—the Warnemünde Seaplane Competition in which the winning Heinkel machine was fitted with a British-built Napier "Lion"—that the following telegram has been received by D. Napier and Son, Ltd., from the Heinkel firm:—"Monoplane Heinkel Napier first prize in German seaplane competition the only one without repair and penal point." Thus, we have one more proof of the astounding reliability of the British-built Napier "Lion." In the last seven months the Napier engines have flown from Cairo to Cape Town and back to England; from Plymouth to Alexandria and back; and from Spain to Buenos Aires—covering on these flights alone nearly 100,000 engine-miles!

A London-Egypt Air Line?

AN air line linking London and Paris with North Africa, and ultimately—when the Imperial Airways' Cairo-Karachi service gets going—with India is probable. This would be brought about by the absorption of the French Compagnie Aéronavale by the Air Union. The former company has, for several years, been running a flying-boat service between the South of France and Corsica, and has carried out experimental flights with a view to an extension to Tunis. The Air Union already operates a service between London-Paris-Marseilles, which, together with the considerable experiences with air services gained by this company, should make a London-Africa service almost a certainty.

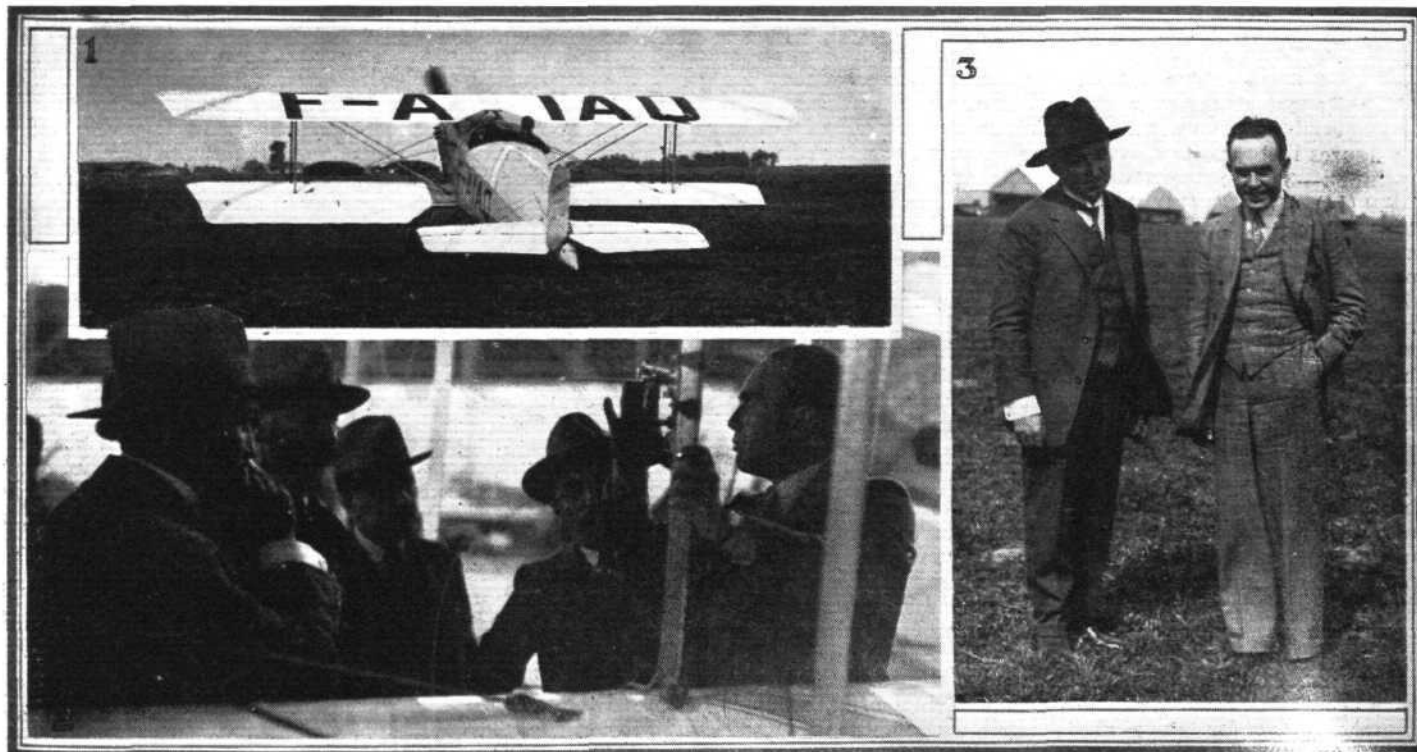
Capt. Fonck's Atlantic Flight

THE Sikorsky S.35 biplane, fitted with three Gnome-Rhone "Jupiter" air-cooled engines, on which Capt. Fonck—the famous French Ace—will attempt to fly from New York to Paris, is now practically ready for the flight and will make its official trials this week. All being well, Capt. Fonck, who will be accompanied by Lieut. Allan Snody, U.S. Navy (navigator), Capt. Homer Berry (second pilot), and Capt. John Irwin (wireless operator), hopes to start on the venture next week.

The Late Capt. E. T. Willows

THE following telegram was sent by the Secretary of State for Air on August 4 to Mrs. Willows, widow of Capt. E. T. Willows, who was killed in the balloon accident on August 3 at Kempston, Bedford:—

"Please accept my profound sympathy in the tragic accident which has resulted in the death of your husband,



THE BRAMSON ANTI-STALL GEAR IN FRANCE: 1. Mr. L. Bramson takes off at Orly on the "Amiot" (S.E.C.M.) biplane to demonstrate the Bramson anti-stall gear. 2. Mr. Bramson explains matters to M. Laurent Eynac (ex Under-Secretary for Air) and M. Fortant. 3. Mr. Bramson (right) with M. Odier (left), who is going to manufacture this anti-stall gear (see *FLIGHT*, August 13, 1925) in France, under licence.

CIVIL AVIATION

Annual Report from April 1, 1925, to March 31, 1926

THE Annual Report on the Progress of Civil Aviation for the period April 1, 1925-March 31, 1926, was issued last week (Cmd. 2707), price 2s. net. As in previous years, the Report is divided into two parts, of which Part I deals with aviation in the British Empire, and Part II with aviation in foreign countries. A welcome innovation is a map giving the air services in Europe, Northern Africa and the Near East, in which the various air routes are shown in coloured lines. British routes are shown in red, and it cannot be said that this colour is exactly predominant on the map, although the dotted red lines which show proposed British routes certainly do help to brighten things up somewhat.

Space does not permit of reference here to but a small section of the Annual Report, and readers are therefore strongly advised to obtain for themselves a copy of the Report from His Majesty's Stationery Office, as it is very well worth studying. It is interesting to find in the Report the statement that the subject of civil air communications is included in the agenda of the Imperial Conference, which is to be held in London in the coming autumn, and it is to be hoped that an opportunity will then be found for the discussion of many important questions affecting the employment of aircraft as a factor in Empire development.

An explanation is given of the reasons for the new "horse-power miles" basis, which came into force in December last, and which has for its object the encouragement of the use of larger machines, and the following table shows the mileage flown during the twelve months under consideration:—

	Mileage	Horse-power Mileage.
1925—		
April	72,590	35,669,700
May	112,355	58,343,575
June	123,100	67,218,775
July	84,985	45,882,650
August	82,815	44,476,550
September	81,445	41,635,825
October	58,350	31,239,450
November	34,355	20,001,625
December	29,720	16,986,750
1926—		
January	34,435	16,329,300
February	40,260	21,353,900
March	55,635	31,022,775
	810,045	430,160,875

The I.A.L. Air Fleet

The Report states that the full fleet of machines in use by Imperial Airways within the present summer is as follows, the figures in brackets denoting the seating capacity of each machine:—3 Handley Page W.8.B's (14), 1 W.8.F. (12), 1 W.9. (14), 4 W.10's (14), 2 Armstrong-Whitworth "Argosys" (20), 1 Vickers Vulcan (6), and 2 De Havilland 50's (4). It is pointed out that as compared with last year the seating capacity of the Company's fleet is increased from 119 to 178, the horse-power from 6,825 to 10,999, and the pay load from 23,000 to 37,000 lbs.

As evidence of the durability of British aircraft is quoted the fact that four of Imperial Airways De H.34 machines have each completed 300,000 miles in the air, while a Handley Page W.8.B. has completed 3,000 hours' flying.

The Egypt-India Service

The following particulars of the agreement entered into with Imperial Airways for a service between Egypt and India, and which is to commence not later than January 1, 1927, are of interest. Subsidy payments up to a maximum of £93,600 per annum for a period of five years will be paid to the company in respect of completed flights carried out under the agreement. In the first year of working £1,200 per flight will be paid for flights commenced at regular fortnightly intervals, and completed within a maximum of five days from Cairo to Basrah, up to and including 52 such flights; £900 for each flight similarly commenced and completed within a maximum of six days from Basrah to Karachi, up to and including 26 such flights; and £300 for each such further flight from Basrah to Karachi, up to and including 52 in all. The normal times for the stages Cairo to Basrah and Basrah to Karachi are expected to be two to three days and two days respectively; the maximum times quoted are only for subsidy purposes. In the second

and subsequent years £900 per flight will be paid for regular fortnightly flights carried out, up to and including 52 flights on each section.

Non-Subsidised Aviation

The Report states that owing to financial difficulties the service operated between Belfast and Stranraer by Northern Air Lines, Ltd., was compelled to cease during the first three months of the period under review. From an operational standpoint, however, the service proved successful.

The De Havilland Aeroplane Hire Service is stated to have carried out a number of successful flights, including that of Mr. Cobham to Cape Town and back. Many of these flights have been for the purpose of collecting photographs for the press from Madrid, Berlin and other towns in Europe, and a tour has been made of Spain and Northern Africa. The school flying and air taxi flying combined carried out by the De Havilland Company amounted to an aggregate of approximately 3,000 hours during the year, while the number of pupils at this company's school has exceeded 140.

The Savage Sky Writing Co. is stated to have continued operations in the United Kingdom, the United States of America, and Cuba. The company has eight machines in the United Kingdom, and twelve in the United States.

Considerable space is devoted in the Report to air survey and photography work, and it is stated that the most interesting individual operation was that carried out at Eastbourne by the Aircraft Operating Co., Ltd., who obtained a contract for the photography of 50 square miles of country.

Aeroflms, Ltd., a subsidiary of the Aircraft Operating Co., Ltd., carried out more than 150 hours of photographic flying, embracing practically every county in England. The whole of London, covering 100 square miles, has been photographed for the purpose of making a new map. The Thames Conservancy Board have used aerial photographs as a means of investigating currents in the river caused by the influx of tributaries.

The Air Survey Co., Ltd., have continued aerial survey photography in the East, a contract for the photography of 1,350 square miles of oil-producing forest land in the Miri oilfields of Sarawak having been completed during the year. This involved the taking of more than 2,000 photographs. Following on this a further contract has been placed by the Government of Sarawak for an area of 1,760 square miles, work on which has been commenced and an experimental order for the photography of some 400 square miles of territory has been obtained from the Government of the Federated Malay States.

The Report states that the Surrey Flying Services, Ltd., and the Central Aerophoto Co., Ltd., have continued to carry out their normal programme of industrial photography, each company having taken over 2,000 photographs.

Particulars are given in the Report of the five light aeroplane clubs, but as these are already well known to readers of FLIGHT we do not propose to give details here.

Training of Reserve Officers

Under this heading it is stated that the following type of single-engined aeroplanes have been approved as advanced training types: D.H.9 (Jaguar), Bristol Advanced Training Biplane (Jupiter), and Armstrong-Whitworth "Wolf" (Jaguar).

The number of full courses completed at each school is as follows: the De Havilland Aircraft Co., 91; the Bristol Aeroplane Co., 98; Wm. Beardmore and Co., 81; Sir W. G. Armstrong, Whitworth, 83; and the North Sea Aerial and General Transport Co., 61, on twin-engined aeroplanes, and 27 on seaplanes, a total number of courses of 441.

A scheme for the instruction of suitable candidates to be trained *ab initio* has been brought into practice during the year at two schools, and the following number of preliminary courses have been completed at each: the De Havilland Aircraft Co., 9, and the Bristol Aeroplane Co., 7. This course involved 30 hours' flying training (dual and solo), on Avro, "Moth" or Bristol Preliminary Training machines, and at least five hours' solo flying on an advanced training type (Bristol Advanced Training biplane) or D.H.9.

Airships

On the subject of airships reference is made in the Report to the breaking away from her mooring mast of R33. It is stated that in addition to the work on R33 progress was

made with design and experimental work for R101, and that certain preliminary constructional work is now in hand, the main hull girders being due for delivery during the summer. Progress has been made with the Egyptian base, and both there and at Cardington the mast structures have been completed as far as the mast head. The enlargement of the Cardington shed is now stated to be practically finished. When complete the internal measurements of this shed will be: length, 812 ft., width 180 ft., and height 155 ft. In the past year the Airship Guarantee Co. have been carrying out preliminary experimental work of various kinds. The airship R100 will be built at their works at Howden, Yorkshire.

Ground Organisation

In addition to a brief mention on the work going on at Croydon in connection with the closing of Plough Lane, and the licensing of four further aerodromes at Woodford, West Cowes, Cramlington and Sherburn-in-Elmet, the Report points out that further development has taken place in the provision of night-flying equipment on the London-Continental route. The Tatsfield Lighthouse has been modified to exhibit an alternating group flashing light showing a succession of red, white, red flashes. In addition the power of the light has been increased. The floodlight at Croydon has been modified so as to be used when desired as a rotating beacon. So far as it has been observed by pilots this light has given very satisfactory results. As a result of a series of observations of various lighting devices made from a captive balloon it has been proved that Neon lights have remarkable fog-penetrating qualities, and it has been decided to instal a system of ground lights consisting of sunken Neon tubes on Croydon Aerodrome. A French company carried out a series of night flights from Paris to London and return, achieving a considerable measure of regularity. The development of the Leader cable at the R.A.E. has progressed satisfactorily, and arrangements are now being made for a full-scale trial. If this proves satisfactory it is intended to adopt the system at Croydon Aerodrome, to be used in conjunction with the best system of Neon ground lighting.

On the subject of wireless communication it is interesting to find in the report a statement that during the year 7,655 route traffic messages and 19,751 meteorological messages have been passed, and 267 positions, 91 courses and 411 bearings have been given to aircraft. The wireless facilities at Croydon are being reorganised in view of the extra work which will devolve upon this station owing to the introduction of telegraphic working as distinct from telephonic for the larger types of passenger-carrying aircraft. During the year a direction-finding installation has been erected at Lympne, and steps have been taken to modernise certain obsolete plant at Pulham.

A scheme for employing direction-finding apparatus on night flying aircraft is under consideration. One machine has been fitted with Marconi Bellini-Tosi apparatus and with R.A.E. pattern "wing coil" apparatus. This machine will be operated for 50 hours during the day time before undergoing tests at night.

The general arrangements for the supply of meteorological information for flying on the cross-Channel routes have continued on the lines of previous years. In addition to the routine issues of daily forecasts and hourly reports of actual weather, 3,725 requests for reports or forecasts were received at the Terminal Aerodrome at Croydon, while 2,983 reports were passed by radio-telephony from Croydon and Lympne to aircraft in flight.

Technical Development

Under the heading of Technical Development, mention is made of the Cierva "Autogyro," which is now, the Report states, known as the "Gyroplane." The Report also mentions the development of the wireless beacon as an aid to pilots in finding the aerodrome on an established air route when the ground is obscured by cloud or fog. A few notes on the Savage-Bramson anti-stall gear are also found, as well as a reference to the gyro rudder control, which is intended to keep a machine on its course without the pilot having to be constantly concentrating on keeping a certain compass course.

On the subject of engines it is stated that the radial air-cooled engine, developing an average of 400 h.p., has been extensively developed and is now fitted to several types of commercial aircraft. The experimental tests of sleeve-valve systems have been extended to air-cooled engines with considerable success and the development of the 650 h.p. water-cooled engine has now reached the commercial stage. The interesting statement is found that this engine has been fitted to some of the latest types of passenger-carrying aircraft.

Aircraft

Under the heading of Air Ministry Experimental Aircraft reference is made to the following civil types of aeroplanes and seaplanes which have been built or are in process of design or construction to the order of the Air Ministry: the 3-engined Handley Page "Hamilton," the Avro "Andover," the Vickers "Vanguard," the De Havilland "Highclere," the Armstrong-Whitworth "Argosy," the Beardmore 3-engined monoplane, and a freight carrier which is to carry a paying load of 8½ lbs. per horse-power. The Report mentions, incidentally, that progress is being made by Handley Page, Ltd., in the construction of a small 3-engined aeroplane fitted with three Bristol "Lucifer" engines, and states that this machine will be flying during the coming year. Of Air Ministry experimental seaplanes for civil flying, mention is made of the Supermarine "Swan," the Saunders "Medina," an all-metal seaplane, the maker of which is not mentioned, and the Fairey "Freemantle," while brief mention is also made in the Report of new types that have been built by manufacturers in addition to the Air Ministry types mentioned above: the Handley Page "Hampstead" built to the order of Imperial Airways, the Handley Page W.10, four of which have been acquired by Imperial Airways, the D.H. "Moth" used by the light plane clubs, and the Short "Cockle," the latter having, according to the Report, a top speed of 62 m.p.h., and a landing speed of 38 m.p.h., and which is now stated to be undergoing tests at Felixstowe.

Accidents

The Report states that from a "safety first" point of view the progress of civil aviation in this country has been most satisfactory. During the period under review no aircraft belonging to Imperial Airways met with a serious accident and no fare-paying passenger was injured in any aircraft registered in the British Isles. There were only five accidents which called for notification under the Investigation of Accidents Regulation, 1922, and not one had serious consequences beyond damage to the aircraft. In two cases the aircraft were being tested preparatory to short passenger flights, and in each of the three remaining cases the aircraft belonged to and was being flown by a member of a light aeroplane club. Only one serious accident to foreign aircraft occurred in this country during the period under review. This involved a French machine employed on the cross-Channel route and unfortunately resulted in loss of life. The circumstances of this accident were as follows: on a journey from Paris to London the pilot encountered thick mist over the North Downs and the weather conditions became so bad that he attempted to land. The aeroplane struck a tree and crashed to the ground. Of the seven passengers one was killed, one was seriously injured, and one was slightly injured, the remainder being unhurt. The pilot and mechanic also escaped injury.

Statistics

The following is a summary of the principal facts revealed by the tables given in the Report on pages 31 to 36:—

Table A.—British Air Transport (Part I of the table) showed an increase in the number of passengers carried as compared with the previous year, despite the fact that slightly less mileage was flown. Whilst passengers increased from 13,478 to 14,675, mileage decreased from 890,000 to 865,000. This is an indication of the more economical operation that is being brought about by the use of larger aircraft. The weight of cargo transported amounted to 456.1 tons, which is less than the previous year, but an increase over any earlier year.

It should be understood that for the purpose of simplifying the calculation of passenger traffic the number is counted of passengers travelling over each single stage. An individual flying over two or more stages is therefore counted more than once according to the number of stages flown.

Other flying for hire or reward (Part II of the table), which consists mainly of "joy-ride" flying, again showed a remarkable increase and the number of passengers carried during the year in this branch of aviation was the largest on record—67,329. The previous largest total was 66,785 for the boom period from May, 1919, to 31st March, 1920, following the reopening of civil aviation after the war.

In the seven years' period covered by the table, 67,227 passengers and 1,804.7 tons of cargo have been carried in air transport flying and 315,102 passengers in other flying for hire or reward.

The number of "joy-ride" passengers is actually higher than the table shows, since certain operators have not rendered returns, particularly during the past year.

Table B compares British with foreign traffic to and from the Continent only. The most noteworthy point about this

table is that the total cross-Channel passenger traffic has continued to increase uninterruptedly from year to year. In the year under review passengers carried across the Channel numbered 11,163 by British aircraft and 10,391 by foreign aircraft, a total of 21,554 of which the British share represents 52 per cent.

Table C.—The value of goods imported and exported by air (by British and foreign aircraft combined) also sets a new high record. The combined imports and exports of general merchandise reached £1,972,972 as against £1,328,395 in the previous year. Bullion and specie, which are not included in this table, are being conveyed by air in rapidly increasing quantities. During the year under review the value carried totalled £11,328,829, of which exports formed the largest part, viz.; £11,140,589. The lower insurance rates for air transport as compared with ordinary transport are particularly favourable to such freight as precious metals.

Table D indicates the efficiency of the British air transport services on the basis of flights completed without interruption. Out of 4,179 flights commenced, 3,888, or 93 per cent., were uninterrupted and a further 148 were completed on the same day after interruption. Only 143, or 3·4 per cent., were not completed on the same day.

This result compares fairly closely with that of the previous year, when 94 per cent. of flights commenced were

uninterrupted and 3·7 per cent. were not completed on the same day.

Table E.—Involuntary landings on regular air transport services are again shown to be attributable to weather in about 50 per cent. of cases and to engine or installation failure in about 33 per cent. of cases. Landings caused by weather are due in the main to poor visibility, and this table thus emphasises the importance of the work that is in progress with the Leader cable, Neon lights and other aids to flying when visibility is unfavourable.

Table F.—This table illustrates the very satisfactory position that has been attained with regard to freedom from accidents. In the past year *no accident resulting in death or injury occurred in either air transport flying or other flying for hire.*

Since 1919, air transport flying amounting to 4,563,000 miles has now been carried out with only four accidents causing the death of passengers. This is equivalent to one such accident in a distance flown corresponding to 46 times round the equator.

Other flying for hire has maintained its freedom from fatal accident for the fourth successive year.

The rest of Part I of the Report deals with aviation in the Dominions and Colonies, while Part II of the Report contains statistics and information concerning aviation in foreign countries. Unfortunately space prevents us from referring to these.

CIVIL AVIATION IN CANADA

In the Report on Civil Aviation for 1925 recently issued by the Dominion of Canada Department of National Defence, there is much of interest as regards the aerial activities in this part of the British Empire, while, viewed from the standpoint of aviation generally, this report constitutes an excellent record of the remarkable progress that has been, and is being, made in aeronautics as a whole.

The report in question is a somewhat lengthy one, containing a considerable amount of detailed information, with many illustrations, and it would be altogether impossible to deal with all the matter contained therein in the pages of *FLIGHT*. We can only give extracts from those portions of the report which we consider to be of outstanding interest.

Referring to the progress made in Canada, the Report states it is noteworthy that, while in practically every other country the main effort has been the operation of State subsidised or operated air services for the carriage of passengers, mails or express, development in Canada has been on quite different lines. Up to the present, in Canada flying has been used principally as an improved method of observation. Straight transportation work has been subsidiary to this, and has been undertaken only when other modern facilities were lacking. This development, peculiar to Canada, arose from natural conditions existing in this country after the Armistice. Foresters, surveyors and those charged with the administration and development of the outlying districts had watched the progressive growth, in capacity and efficiency, of aircraft during the war. They were fully alive to the possibilities of aircraft for increasing the efficiency of their services. There was, therefore, an immediate demand for aviation in these lines of work the moment men and machines were available to develop them. The importance of air mail and passenger services was not lost sight of, but inquiries had shown that the establishment of an organized system of air transport throughout the country would entail very large capital and operating charges, without holding out much promise for some years of any adequate returns. It was therefore decided to concentrate on those services for which there was an immediate need; in forestry and aerial surveying: in transportation to the remoter parts of the country; and leave for the time being, the development of air routes to countries where the natural conditions were easier, the population and traffic denser, and conditions altogether more favourable for experimental work.

In Canada, as elsewhere in the aviation world, there has been a steady and satisfactory progress during 1925. There is little that is novel or spectacular to report. The year has rather been one of consolidation of the ground gained in past years and the improvement of existing organisations. The services for the better protection of the forests and the preparation of forest inventories have increased the number of aircraft in operation and the areas served. Additional bases have been established and, with increasing familiarity with the problem, greater efficiency has been obtained. The provincial Government of Ontario, satisfied with the results

obtained in their first year of State operation, increased their forces materially. Their central depot at Sault Ste. Marie has been completed during the year and provides a fully equipped, modern hangar, workshop and storehouse of fire-proof construction, unequalled for its purpose in Canada or elsewhere. In Manitoba, the R.C.A.F. have enlarged the area under fire patrol, at the request of the Dominion Forest Service, by the addition of a new base at Cormorant Lake.

In Quebec the amount of flying done has increased with further support and interest from the province. In British Columbia a season of exceptional fire-hazard has again drawn attention to the desirability of making further use of aircraft for fire detection and control.

In the interior of the province there are great stretches of territory still without a highly organized system of fire protection and in such districts aircraft can be of incalculable value. The problem is largely a financial one as the cost of maintaining adequate fire prevention services, whether ground or air, is heavy. A solution must be found if the timber wealth of the province is to be conserved for future generations. Primary reconnaissance and forest inventory by air is recognised to-day as the fastest and cheapest method of obtaining information over large and particularly over remote areas. Aerial cruises are officially accepted equally with those made on the ground in some provinces for certain classes of work. Each year sees a growing use by the State and by commercial organizations of aircraft for this purpose.

The Report goes on to state that the progress in aerial photography has been maintained and the area photographed has shown an increase, in spite of unfavourable weather conditions. Its use in engineering surveys has also been extended and topographical maps, complete with contours, have been produced direct from vertical aerial photographs, with only the ground control necessary to fix the scales, vertical and horizontal, of the pictures. A very large field exists to-day in Canada for aerial photography, which has revolutionised certain phases of map production during the past three years. It cuts down the field work of the topographer by at least half, and enables a greater area to be covered each year by each survey party. A still greater field, adds the Report, is in the use of oblique pictures in the preliminary mapping of the vast areas lying north of settlement.

The simple and efficient method, originated by the late Dr. Deville, of mapping from oblique photographs has been employed by the Topographical Survey during the past three years with astonishing results. It has brought within the sphere of possibility the production, within a comparatively few years, of maps of the whole Dominion far more complete and as correct in scale as those made by present ground methods. In the past three years, with three or four aircraft only, 100,000 square miles have been photographed and the resulting maps are now being published.

Another successful phase of civil government activity is co-operation with the Fishery Service on the Pacific coast.

This service has been extended greatly in 1925, with satisfactory results.

Though no progress has been made in the establishment of air routes for the regular transportation of passengers, mail, express or freight, yet interest is growing in this field. The successful operation of the lines in Europe and the United States has shown the possibilities and the problem is being studied in Canada by many organizations. Caution, says the report, in this phase is essential, and air lines will be developed when the time is ripe. Undue optimism leading to premature development and subsequent failure will retard rather than advance progress. Meanwhile, much transportation work is being done in the remoter districts where travel is slow and the transport of freight by man power an expensive business. Here the usefulness of flying-boats has again been demonstrated and the practical possibilities of such work proved beyond all question.

The technical development of aircraft and equipment is also proceeding. The first products of Canadian design are now in use. The "Vedette" flying-boat, designed for aerial photography and forest sketching, but equally suitable for pleasure flying and light transportation work, after a season's work has proved to be a complete success and a credit to her designer.

A larger fire suppression and freight-carrying twin-engined flying-boat, the "Varuna" now undergoing her trials, promises equally well. Both these machines are produced by Canadian Vickers Limited, and each is fitted with 200 h.p. Wright "Whirlwind" engines. The importance of continuing this development is really great and plans for two further aircraft, specially designed for work in Canada, are being considered. The first is a small single-seater boat, fitted with wireless, for fire patrol work, to enable these important duties to be carried out at the minimum cost, both capital and operating. The other is a special photographic aircraft fitted for use with wheels, skis or floats, so that it can be used both in summer and winter and under any conditions.

Taken as a whole, therefore, progress in Canada during 1925 was encouraging, perhaps more so than in any previous year.

As in the past every endeavour has been made to keep it on sound lines, as far as possible self-sustaining, and of direct benefit to the country. Useful flying should be steadily encouraged and, as financial conditions improve, the necessary capital will be forthcoming for its expansion. The operations of the past five years prove that Canada offers a very wide field for civil aviation.

Following the brief summary quoted above, of the progress made in Canada with civil aviation, the report proceeds to deal in detail with the various aerial undertakings carried out throughout Canada up to the end of last year. Many interesting particulars and statistics of these are given, especially regarding some of the photographic surveys. Unfortunately, however, we cannot find space for further reference to these at the moment, and we can only suggest that those of our readers who may be particularly interested should endeavour to obtain a copy of this report (published in Canada at 25 cents) which we believe may be obtained on application to the Liaison Officer, Royal Canadian Air Force, c/o Air Ministry, Adastral House, Kingsway, W.C.2.

During 1925 there were no accidents resulting in the death or serious injury of any of the occupants of a machine, whilst the total machine mileage for the same period was 255,826. (In 1924 there was one death for 294,778 miles flown, and in 1923, two deaths and three cases of injury for 188,098 miles flown). The total 1925 mileage of 255,826, of which seaplanes claimed 218,686 miles, was made up of:—3,171 aircraft flights or a total of 4,091 flying hours. The number of passengers and crew carried was 4,897, the total freight or express, 592,220 lbs., and mail, 1,080 lbs.

The total number of aircraft in use was 39, made up as follows:—single-engined aeroplanes, 11; float seaplanes, 1; boat seaplanes, 26—the experimental twin-engined "Varuna" is not included. There are two firms manufacturing aircraft, eight firms operating aircraft, and two firms employing aircraft as auxiliary service. A total of 34,000 sq. miles was covered by aerial reconnaissance and 3,193 sq. miles were photographed.

◆ ◆ ◆ LIGHT 'PLANE CLUB DOINGS

The Newcastle-upon-Tyne Aero Club

REPORT for week ending August 1:—Time flown—L.N.—21.05, L.Y.—16.10, Total 37 hours 15 mins.

Dual., 23.05, Solo, 12.40; Passenger 1.30.

The following members flew under instruction: Mrs. Marcks, Miss Leathart, Col. Sir Joseph Reed, Messrs. Phillips, Middleton, E. C. Kennedy, P. R. Kennedy, Irving, Stawart, Palmer, W. Todd, Thirlwell, Howard, Davidson, Bruce, Campbell, Sandilands, Shaw, J. Bell, George and Phillips.

The following members flew solo: Mr. W. Baxter Ellis with Mr. F. H. Phillips. R. N. Thompson with the following passengers: Mr. J. Towers, Mr. C. Ruthertford, Mr. E. Gibb, Mr. A. Thompson and A. Bell.

Mr. N. S. Todd with Miss Howard and Mr. W. Todd.

Solo practice: Dr. Dixon, Mr. Smith, Mr. F. H. Phillips and C. Thompson.

The following had joy-rides: Mr. Robson, Mr. Farnsworth, Mr. Hayden and Miss Gieriot.

During the week the following members completed the tests for their Pilot's Licences, all completing in a satisfactory manner: Dr. Dixon, Mr. F. H. Phillips, Mr. L. Smith and Mr. C. Thompson, Junr.

This, of course, is a record for the Club for any one week and it is hoped that several others will qualify at an early date.

It became necessary on Thursday night to take out the engine from L.Y. for top overhaul, otherwise the total amount of flying would have been much greater, as excellent weather and a good turn-up of members would have assured this.

The Hampshire Aeroplane Club

REPORT during week ending August 7:—As announced in the last report, the Hampshire Aeroplane Club had arranged to take delivery of its two de Havilland "Moths" on August 7. This was duly carried out according to programme, both machines leaving Stag Lane at 4 p.m. Captain F. G. M. Sparks (chief instructor to the London Aeroplane Club) flying G-EBOH and Captain G. I. Thomson, D.F.C., who has been appointed chief instructor to the Hampshire Aeroplane Club, flying G-EBOI with Mr. O. E. Simmonds as passenger. Mr. Simmonds, who was unanimously re-elected chairman of the committee at their last meeting, officially accepted delivery of the two "Moths" on behalf of the club.

Brooklands was reached at 4.20 p.m., and the machines landed here in order that Captain Sparks might pick up Mr. A. N. Clifton, the former secretary of the club. The "Moths" then circled over Brooklands track, and an excellent view of the Grand Prix motor race was obtained. Leaving Brooklands at 5.10 p.m., the machines were flown to Winchester, where a circuit was made over the town for the benefit of members in that district, and then on to Southampton, where the same procedure was carried out.

From here, the pilots flew to Hamble, the headquarters of the club, which was reached at 6.10 p.m. A large number of club members and their friends had congregated to witness the arrival of their new possessions, and great jubilation was proclaimed upon seeing the registration letters of the machine, viz., G-EBOH and G-EBOI, and they were immediately christened "Gee Bo" and "Gee Boy."

After landing, Captain Sparks took up "Gee Bo" and gave an exhibition of stunting, which was very much appreciated. Captain Thomson

then took up Mr. Shepherd, of *The Southern Daily Echo*, for a joy ride. This concluded proceedings for the day.

Captain G. I. Thomson who, as previously mentioned, has been appointed chief instructor to the club, commenced his duties on Saturday, August 7. He is an officer who saw considerable war service, and he has recently been responsible for passing out every officer training on de H.9a's for the Fleet Air arm.

In Captain Thomson, the members of the Hampshire Aeroplane Club have a really keen and conscientious instructor who, in addition, is possessed of that personality which immediately gives his pupils a feeling of confidence.

The club has appointed Mr. T. McCracken, late chief engineer to Northern Air Lines, Ltd., as ground engineer, and here again there is no doubt that a happy choice has been made.

The alterations to the clubhouse and hangar are well in hand, and really fine premises should result. At the present time flying is taking place from the lower aerodrome, as the levelling process is not yet complete on the large upper aerodrome which will ultimately be the flying ground of the club.

Next Saturday and Sunday, the 14th and 15th instants, will be Associate Members' Days, when, in addition to the normal instruction of flying members, associate members may take short flights at a charge of 5s. each. Tea will be available on the aerodrome on both of these days.

The Lancashire Aero Club

The aerodrome has been closed for staff holidays, and therefore on only two days has flying taken place. In these two days, however, a total of 23 hrs. 20 mins. was put up.

Mr. Stack gave instruction to: Messrs. Costa, 2 hrs. 20 mins.; Entwistle, 1 hr. 15 mins.; Hope, 55 mins.; Fray, 45 mins.; Gattrell, 45 mins.; Lacayo, 40 mins.; Jenkinson, 35 mins.; Foxcroft, 20 mins.; Shute, 15 mins.; Rodman, 15 mins.; Leeming, 10 mins.; Goodyear, 10 mins.; Goodfellow, 10 mins. Total, 8 hrs. 35 mins.

Mr. Cantrill gave dual to: Messrs. Benson, 40 mins.; Dyson, 25 mins. Total, 1 hr. 5 mins.

Mr. Scholes gave dual to: Messrs. Crossthwaite, 55 mins.; Newton, 50 mins. Total, 1 hr. 45 mins.

Solo flights by Messrs. Goodyear, 2 hrs. 20 mins.; Leeming, 2 hrs. 20 mins.; Agar, 1 hr. 15 mins.; Goodfellow, 1 hr. 10 mins.; Lacayo, 50 mins.; Williams, 25 mins.; Crabtree, 15 mins. Total solo, 8 hrs. 35 mins. Tests occupied 1 hr. Joy rides, 2 hrs. 20 mins. Total time flown, 23 hrs. 20 mins.

Mr. Lacayo gave D. F. Dyson a cross-country flight of 55 mins. Cross-country flying—on the approved routes—is becoming a common pastime with the "A" Licence pilots. Dr. Wilkinson flew L-V from Leeds on Friday, and Mr. Leeming visited Sealand on Saturday. A number of circular cross-country trips have also been made. Mr. Agar made the required flights for his certificate on Saturday, having only gone solo for the first time a few days previously. Mr. Goodyear, who has just taken his "ticket," is also the holder of a ground engineer's certificate recently obtained through the club.

Two "Moths" have been in use, L-V and M-Q. L-R is at present being overhauled and repainted. The Avro Renalt O-K is being flown mostly on cross-country and joy rides by "A" Licence pilots. The Avro Gosport stands ready in the hangar—apparently waiting for a pilot bold enough to tame its somewhat uncertain engine.

Busk Studentship in Aeronautics

THE Trustees of this Studentship, founded in memory of Edward Teshmaker Busk, who lost his life in 1914, whilst

flying an experimental aeroplane, have awarded the studentship for the year 1926-7 to Mr. Percy Brooksbank Walker, B.A., of Peterhouse, Cambridge.

AN INTERESTING TRIP WITH A "JUPITER" ENGINE

(Concluded from page 481.)

It was with a certain amount of relief that we sighted the sandy coast, but it was in no way easy to locate exactly where we were and to estimate with correctness what our drift may have been. Turning slightly to the west we sighted a military camp with an aerodrome a little inland from a picturesque sandy bay, and to this we directed our course. Flying low I was just about to fire a rocket to warn them that we were about to land, and to give us the wind direction, when we discovered an Italian flag flying in the breeze. There was nothing for it but to retrace our way, so that we proceeded eastwards along the fringe of the desert and the sea until we reached Sollum Bay. Here was an aerodrome marked by four white stones, and nearby had been built a frontier post hut of mud. Once again, however, a small Italian flag was in evidence, and there was no doubt that we were still on the wrong side of the frontier. A mile further on we spotted a pile of cases on the desert, standing deserted about half a mile from some mud huts. In flying low over the pile we were relieved to find that these cases were marked with the words "Shell." We landed safely on the sand, taxied up to the boxes, and off I started to get assistance, as no ladder or funnels were in evidence. A number of Arabs were seated around the

to the present time I still shudder when I think of the flavour of my first Egyptian-made coffee.

The re-petrolling went forward very slowly, and unfortunately we were forced to realise that it would now not be possible for us to reach Cairo before darkness had fallen. However, we were anxious to make an attempt, and with our tanks about three-quarters full we continued on our flight. Little more than half an hour had passed before darkness set in suddenly, and from the sea drifted in a blanket of mist which spread itself about 100 ft. from the ground so that we were forced to fly below this and quite close to the desert. Our compass was not illuminated, so we turned slightly towards the coast with the idea of reaching Alexandria before turning inland. However, as the darkness became more intensified, and as there was no moon or stars to assist in navigation, Col. Minchin decided very reluctantly that our best course was to land. On reaching the coast we were able to pick out two lagoons which we assumed to be Mathruh, and where upon our maps a landing-place was marked. A few small lights were visible around this settlement and as we circled round quite close to the ground more lights appeared. These we were gradually able to separate into two distinct groups, and flying quite close to the ground



LONDON-CAIRO WITH A "JUPITER": Left, filling up with "Shell" at Sollum, an operation somewhat difficult of accomplishment, and, right, a first taste of Egyptian coffee.

camp and, not without difficulty, I managed to get a couple of them in tow and induced them to come out with me to the machine. One, however, escaped at the first opportunity, but apparently his intentions were of the best for he returned later with an Egyptian lieutenant. The filling-up of the machine with petrol, although an amusing episode to look back upon, was certainly one of the most trying incidents in our journey. The heat was terrific, and the large tins of petrol proved too heavy for us to lift with ease. The aluminium cowl of the machine had become too hot for us to touch with our hands, and the cylinder heads and exhaust pipes were in the same condition. Still the Arabs seemed to find no discomfort in this heated metal, for they stood upon the hot cylinders, exhaust pipes and rocker gear with their bare feet to assist in pouring in the petrol and without uttering a word of complaint. Although we had descended from they knew not where, the Arabs were anxious to extend to us the courtesies of their race, and one of our new friends soon appeared with a tray bearing three small cups of coffee. I must confess that this appeared to be very welcome, but after taking one sip disillusion was complete. But my Arab friend was nothing if not persistent and in my efforts to be equally courteous I have no doubt I managed to raise a sickly smile. After swallowing the first dose of my medicine accordingly, he pursued me with the tray, insisting that the other two cups had been prepared for my especial benefit, and try as I would to dodge him around the machine he was not to be shaken off. Accordingly, the second and third cups had to follow the first, and up

between them, Col. Minchin made an excellent landing, although he was not actually able to see the earth. The machine ran along for some little distance and then there was suddenly a terrific bang in the rear of the fuselage, the machine swung violently to one side, and pulled up in soft sand. We were in no way certain of the reception we should obtain from our Arab hosts as uninvited guests, but parties of them soon came out to us, took in charge our baggage, and conducted us with the greatest courtesy towards the settlement. We were afraid we might have frightened them by flying so low around their dwellings, but with true Arab courtesy they assured us that their only fear had been for our safety. It was so dark that we were unable to see where we were or how matters stood with our machine, so that we had to leave it as it stood for further inspection on the morrow.

Very soon we were met by some Egyptian officials, who were accompanied by Captain Hillier, a British officer, who had been Governor of the Province during the war. Arrangements were speedily made for food to be served to us and for accommodation to be provided, and after a very welcome night's rest we returned to our aeroplane in the morning. It did not take long to realise how near we had come to completely wrecking the machine, which had been guarded by native police during the night. Our landing had been checked by the Bloodhound running into some soft sand only a few feet from an elevated road constructed from rock. The bang we had heard after landing had been caused by the tail skid striking a water pipe laid across the desert from the coast

to the Government Rest House. This pipe varied in height from being underneath the sand level to several feet above it, and the actual point of impact was several inches above the sand. Our wheels were buried up to their axles. Captain Hillier very kindly obtained ropes for us which we fastened to the undercarriage. Here we called for the assistance of the Arabs, and a large party of wildly excited men laid hold of the ropes and, with many shouts and much laughter, commenced to haul the machine up the sand on to the elevated roadway. So thoroughly did they bring this about that our difficulty was to get them to stop, for with the easier going once the road was attained they set off with our load at a steady trot and seemed to thoroughly enjoy every minute of their experience. The embarrassment arising from our allies' assistance did not end here, for, unfortunately, after thanking those that had assisted us to the best of my ability, I made the mistake of picking out a couple of useful looking Arabs to turn the propeller for us and showed them how to do it. No sooner, however, had they started to turn than by a rush on the part of the other Arabs they were practically trodden underfoot and every man on the settlement appeared to have made up his mind that he was going to have a part in moving the propeller. So great was their excitement that I was powerless to keep them back and I became really concerned for the safety of the machine. Captain Hillier, however, came to the rescue and shouted some orders which brought the tumult to an end. After starting the motor we taxied along the desert by the picturesque lagoon, took off, and headed for Cairo, where we landed about 50½ hours after the time of our taking-off from Croydon aerodrome, the

ourselves distinctly fortunate in that none of our Arab friends were in evidence this second morning, and we were able to swing the propeller and get our engine started without a further tumult. The flight from here to Sollum, a distance of about 150 miles, occupied two hours against a head wind, so that we were quite certain that our sea crossing would inevitably be a long one. At Sollum the assistance available was much better than on the journey down and we were personally relieved of the very arduous work of filling up the tanks. After a slight meal of bread and cheese and coffee we struck out on our long flight across the sea. The head wind had gradually strengthened and once again a thick haze spread over the ocean so that no horizon was visible. It was quite three-quarters of an hour after the time that I had figured out that Crete should be visible before the first sight of the island was obtained and you can understand that it was with a certain amount of relief that I caught the first glimpse of its forbidding looking shores. Just before reaching the island we saw in the distance the dim outline of a ship, the first and only boat which we had seen during our sea crossings. Colonel Minchin decided not to fly over the Cretan mountains but to make his way round the island, so that we had a further two hours' sea trip before we made our way into the Bay of Athens, where again equally bumpy conditions were experienced as on our outward journey. The sea trip from Sollum had altogether occupied 5½ hours, during which the engine had purred along with a steady drone which had almost a somnolent effect.

During our previous landing at Athens we had been warned of the danger of attack from the giant eagles which have their



London-Cairo
with a "Jupiter":
Willing helpers
haul the "Blood-
hound" out of
the sand into
which its wheels
had sunk when
alighting at
Mersa Mathruh.

delays at Brindisi and Sollum having robbed us of the record which we had set our hearts on making.

We landed safely at the R.A.F. aerodrome at Heliopolis, but most unfortunately, in taxiing up to the shed, our port wing tip caught against some portable barbed wire barriers, so that the wing tip bend was smashed, along with two ribs, and some of the fabric was damaged. By reason of the non-success of our making Cairo within the two days desired, we decided to attempt to fly back to England as quickly as possible in order to make a five days' journey of the return trip. We explained this to the officers and N.C.O.s at Heliopolis, and they immediately entered into the spirit of our requirements and proceeded to make a temporary repair to the wing tip. In the heat the glue dried almost instantly, the fabric was stitched and doped into place, and in two hours a most excellent repair had been executed. In the meantime I changed the plugs of the engine, Colonel Minchin and I had a wash and some food, with a very welcome cup of tea, and about two hours after landing at Cairo we were again in the air on our return trip.

We reached Mersa Mathruh flying against a head wind. As the light was failing and knowing at least we could get shelter there, we decided to spend the night at this spot, where we were given good beds at the Government Rest House, well protected with mosquito nets. Before dawn we were out again on the aerodrome, which, by the way, is situated at the opposite end of the settlement to that marked on the Air Ministry map, and this had accounted for our badly selected landing place the previous night. After our experience with propeller swinging the morning before, we counted

eyries along this coast. Quite recently one of the Greek Government seaplanes had been attacked by an eagle, with the result that the machine had been smashed in the air and, crashing out of control, killed the pilot. I suppose this story must have been running through my brain when we were nearing the Tatoi Aerodrome at Athens, and were flying at a height of about 2,000 ft., when we saw a very fine specimen of an eagle in our close proximity.

It was Saturday afternoon when we landed at Athens and we found the whole of the staff had left for the day. Fortunately, the petrol company's representative was in attendance and a few men were available to help us, and while petrol was being put into our machine we were taken to have some food, for which by this time we were more than ready. We were seated at the table by our well-meaning host and after a considerable time food arrived, consisting of two small cutlets and some potatoes. Although the party numbered five, our host insisted upon us accepting the cutlets, but, hungry as we were, we were quite unable to disengage any of the meaty portion from the bone. Another source of supply, however, came to light, namely, some cold meat. Colonel Minchin, fearing a repetition of the first course, declined a serving with courtly politeness, but I decided at any rate to give the course a trial. This proved quite satisfactory and, whilst I started on our next journey with a certain amount of content, Colonel Minchin left Athens just about as empty as he entered.

Upon taking off from the aerodrome in the direction of home it was necessary to climb very hard to get over the high mountains which rise immediately behind the aerodrome. On reaching the top of the first range we encountered another

large eagle so close that I took the Verrey Light pistol from the cupboard and held it in readiness. However, this stately monarch of the air showed no signs of being unfriendly and even if it had I doubt whether the Verrey Light pistol would have been very effective.

Our flight across Greece, Albania and Corfu was rendered more difficult by some very bad storms and at times it appeared very doubtful as to whether we should be able to penetrate them. The whole of this country is very bad for flying over and clouds hang about in the mountains over very long periods. In the course of my flying experience I do not think I have ever encountered worse bumps than we met with during this trip. The machine was buffeted this way and that and up and downwards until there were periods when I positively began to feel nervous. If I had been flying in a machine of which I had had any doubts whatever as to the strength of any portions of the structure I am afraid that some of our manoeuvres during this flight would have caused me the greatest possible concern.

After an hour's journey over the Adriatic Sea beyond Corfu we sighted Brindisi and landed. Before taxiing to the hangar, however, we found our starboard tyre was burst and our tail skid broken. The aerodrome was very hard but the landing was normal, and I can but think that the breakage happened when the machine ran back a foot or two after coming to rest. Our old friend the Maresciallo ran out on to the aerodrome and was delighted to see us return. Apparently he desired to pay us the greatest honour which he could, for he immediately dashed back to his quarters and donned his smartest uniform before coming out to the aerodrome to greet us. His joyful excitement on shaking us by the hand was good to see. Our damaged machine was more or less lifted into the hangar, jacked up on to some barrels and the damaged parts removed, whilst a message was immediately sent to Brindisi and the representative of the petrol company to come to our assistance.

On the following morning, Sunday, a mechanic was sent to us to make the repairs to the tail skid, but he had neither the tools, material nor the ability to undertake the task. Later in the day we were able to arrange with a mechanic at a garage to carry out the repairs and at 3 o'clock on Monday afternoon, after several visits from us, he had the fittings repaired and, under our supervision, had made quite a sound job. We hurried to the aerodrome with the parts and assembled them on the machine with hopes of making a start and getting to Pisa that night; but our disappointment can be imagined when we were told that it would not be permissible for us to leave until the officer of the Italian Air Service was present. As I have previously mentioned, there was no telephone at the aerodrome, so that we were forced to return to Brindisi to kick our heels for the night.

At the hydroplane Station we explained to the officer in charge that we wished to leave at the latest by 4 o'clock the following morning: with the greatest courtesy he informed us that all arrangements would be made towards this end and that the necessary officer would be present before that time. We ourselves were out early and by 3.30 had everything in readiness for the start. 3.30, however, merged into 4, 4 to 5 and 5 to 6 and still no officer had appeared, and it was 6.15 before the officer from the hydroplane station arrived and gave us the clearance enabling us to depart.

Of our return journey to Pisa there are no particular incidents to record. We passed close to Rome and a hydroplane from Lake Bracciano came up to have a look at us. At Pisa we were met by the same officers and other people who had been so kind to us on our outward journey. The Commandant immediately informed us that he had obtained all possible weather reports and he was certain it was impossible for us to proceed owing to bad weather in the North of Italy and the Alps. We suggested that we might try flying across the Gulf of Genoa. Before he would agree to this he obtained weather reports from Genoa and along the coast and these, unfortunately, were all quite stereotyped "flying impossible." The following morning again he obtained weather reports for us from all possible quarters, and although the weather at Pisa seemed fair, once again they all spoke of unfavourable conditions. Despite these reports, however, Col. Minchin considered that with the aeroplane and engine which we had weather should not deter us, and so we made a start, flying out across the Gulf above Genoa and Savona to Albenga. The weather gradually got worse and worse, and at Albenga we experienced very bad lightning and thunderstorms accompanied by such violent rain that we were forced to return to Pisa. On our way we met a Dornier seaplane flying close to the coast and exchanged greetings with the pilot, who we afterwards were told was Commander Franco, who had recently flown to South America.

Our friends at Pisa were determined to do all they could to

reconcile us for the disappointment which we had suffered, and Sr. Lorenzo Norci, of the Nafta Company, arranged for us to visit the Dornier works. Here we saw a good deal which interested us very much, including the Dornier Flying Boat fitted with two Jupiter engines, as well as the machine in which the Marquis de Pinedo will attempt the flight round the world. The following day we were personally introduced to the Marquis, who did everything he could to make our visit an enjoyable one. He personally arranged a special lunch at his residence, to which he invited some of the chief people in Pisa, and this despite our diffidence on account of our lack of suitable clothing for a formal function of this kind. The records of flying experiences which we were able to exchange in conversation were most interesting to all of us, and we thoroughly appreciated the very great kindness which induced the Marquis de Pinedo to entertain us thus.

Once again the following day the weather reports were equally depressing and the storms that we had encountered on the previous day included Pisa in their range. This was succeeded by fair weather the day after, and because of reports of the impossibility of crossing the Alps we took the air and proceeded along the coast. Col. Minchin made an excellent effort to penetrate inland and into the Alps, but after being forced down lower and lower by the heavy clouds we were obliged to turn left and make for the coast, from which we proceeded to fly over the sea a few miles from the coastline passing San Remo, Mentone, Monaco, Nice, Cannes, Toulon to Marseilles, where we landed and took on board a supply of petrol. Almost as necessary was food for ourselves, but unfortunately all that was obtainable on the station was five sardines, a piece of bread and some coffee, which we shared. Col. Minchin supplemented this with chocolate, while I broke into a tin of our iron rations.

Off again from Marseilles and flying along the valleys of the Durance and Rhone we again encountered extremely bumpy weather, rendered exceptionally unpleasant because we could not afford to fly higher in an attempt to avoid the bumps, as with the strong head wind encountered at altitude our speed was reduced to something like 50 miles an hour.

Colonel Minchin had thought of landing at Lyons, but we decided to fly straight on to Dijon, where we stayed the night.

Leaving Dijon at 6 in the morning, our flight to Paris was of no special interest and after clearing Customs there we carried on to England in the company of an Imperial Airways machine, arriving at Croydon about 12 noon.

After clearing Customs and having a meal we heard that an open aircraft race would shortly be held at Hendon aerodrome, so that we immediately jumped into our machine and flew over to Hendon to enquire if our entry could be accepted. It marked a fitting close to our trip to be able to take part in this sporting race, and we certainly think that people were tremendously impressed with the excellent running of the Jupiter engine when they took into consideration the fact that it was taking part in the race without any particular attention or even changing of plugs after it had undergone such strenuous running.

I would hardly like to close this report without paying tribute to the pilotage of Colonel Minchin, who had a very strenuous test of endurance and pilotage throughout the whole trip, and his judgment in airmanship on all occasions proved sound and correct. Thirteen hours of it at the joystick, flying over such difficult country and over wide stretches of sea, must be considered a very fine effort for any air pilot.

Our cruising speed was generally in the region of 105 m.p.h., but at times such high head winds were encountered that we made as little as 50 m.p.h. The following rough log gives the approximate distances and times for our trip:—

	Miles.	Hours.
London	—	—
Dijon	400	4
Pisa	395	3½
Brindisi	450	4
Athens	400	3¾
Sollum	480	4½
Mersa Mathruh	150	1½
Cairo	300	3
Cairo	—	—
Mersa Mathruh	300	3
Sollum	150	2
Athens	480	5½
Brindisi	400	4½
Pisa	450	4½
Marseilles	350	4
Dijon	300	4½
Paris	160	1½
London	240	2½
Total	5,405	56½

Personals

Married

JAMES LIONEL AIREY, R.A.F., eldest son of Mr. and Mrs. James A. Airey, of Kew Gardens, was married on July 28, at St. Mary's Church, Twickenham, to KATHLEEN ELIZABETH SPEARING, eldest daughter of Mr. and Mrs. Walter E. Spearing, of Twickenham.

On July 29, at St. Andrew's Church, Worthing, ERIC HUGH, son of the Hon. and Mrs. HUGH CLARKE, of Savanna-la-Mar, Jamaica, was married to AILEEN MARGARET, eldest daughter of Dr. E. F. CRABTREE, of Ashurst Lodge, Worthing.

On July 27, at St. Paul's Church, Bedford, FLIGHT-LIEUT. ROBERT BRUCE SUTHERLAND, D.F.C., eldest son of Mr. and Mrs. Donald Sutherland, of Ingersoll, Ontario, was married to EILEEN DE MAIRIS, only daughter of Mr. and Mrs. CHARLES D. RUSH, of St. Michael's Road, Bedford.

FLIGHT-LIEUT. WILLIAM NOBLE PLENDERLEITH was married quietly in London, on July 31, to Miss DOROTHY PASSMORE, youngest daughter of the Rev. and Mrs. Passmore, of Madras.

To be Married

A MARRIAGE has been arranged, and will shortly take place, between Flight-Lieut. HERBERT BAINBRIDGE RUSSELL, A.F.C.,

R.A.F., only surviving son of the late Mr. H. N. Russell, of Hawkes Bay, New Zealand, and Mrs. Russell, of 24, Argyll Mansions, Chelsea, S.W. 3, and MARGARET ANN, youngest daughter of Mr. and Mrs. GEORGE BOVILL, of Rhydycrena, Bettws-y-Coed, North Wales.

The engagement is announced between Flight-Lieut. WALLIS HALFORD, R.A.F., eldest son of Mr. and Mrs. G. J. Halford, Cleeve Prior, Worcestershire, and MARY, only daughter of the Rev. J. and Mrs. WYNNE DAVIES, Horton Rectory, Slough, Bucks.

A marriage has been arranged, and will take place in September, between Flight-Lieut. C. H. CAHILL, 70th (Bombay) Squadron, Baghdad, only son of Mr. and Mrs. Cahill, late of 41, Avenue Kléber, Paris, and Belfast, and GWENDOLYN MARGARET HARRY, only daughter of the late A. Morgan Harry and Mrs. Morgan Harry, of Meadhurst, Eastbourne.

A marriage will take place between Flying Officer ATHOL GEORGE STRATFORD TUKE, only son of Lieut.-Col. G. F. Stratford Tuke, D.S.O., R.A., and Mrs. Stratford Tuke, and Miss BETTY JOHNSTONE, elder daughter of Mr. and Mrs. William Yuile Johnstone, of Westgate-on-Sea, and granddaughter of the late Mr. F. E. THOMPSON of Marlborough.

ANOTHER "MOTH" TOUR

SOME little time back we described a holiday flying tour carried out by Col. the Master of Sempill on a D.H. "Moth," the outstanding features of which were the ease and low cost experienced in accomplishing the entire trip. A similar tour has just been made by Sir John Rhodes, a member of the London Aeroplane Club, also on a "Moth," and we give below some figures relating to same, compiled by Sir John himself, which we think are particularly interesting as they throw quite an amount of light on the cost of "Moth" Touring.

Sir John states that he was cruising at about 70 m.p.h. on the "pitot," and that his low average speed over the ground was due to a large proportion of the flying being made against the wind. The "log" is as follows:—

Date (Aug.)	Journey	via	Mileage over Ground.	Time (hrs. mins.)	Petrol (gall.)	Oil (qts.)
3	Stag Lane to Coventry (Whitley)	Rugby	75	1 40	Full Tanks	0
	Coventry to Birmingham (Castle Bromwich)	Stonebridge	12	0 20	8	0
	Birmingham to Manchester (Woodford)	Lichfield and Crewe	69	1 10	0	0
	Manchester to Chester (Sealand)	—	36	0 35	7	4
4	Chester to Cheltenham (Brockworth)	—	100	1 35	7	0
	Cheltenham to Bognor (Tangmere)	—	95	1 30	6	0
5	Local flights..	—	80	1 30	0	0
	Bognor to Southampton (Hamble)	Fareham	27	0 35	6	0
	Southampton to Cowes	Stone Point	8	0 15	0	4
	Cowes to Bournemouth	Hurst Castle	27	0 30	0	0
	Bournemouth to Bognor (Tangmere)	Fareham	53	0 50	8	0
6	Local flights..	—	30	0 35	0	0
	Bognor to Margate (Manston)	Folkestone	102	1 25	8	0
	Margate to Stag Lane	Queensferry, Thames-haven, Romford & Enfield	78	2 00	10	0
	Total	..	792	14 30	60	8

The average speed over the ground works out at 51.2 m.p.h., and the petrol consumption at 3.9 gall. per hour, or 13.2 m.p.g. The direct expenses were: 60 gall. of petrol (including some benzol) at 2s. 1d. (average), £6 5s.; 2 gall. of oil at 7s., 14s.; landing fees, 10s.; housing fees, 15s.; total, £8 4s., or 2.48d. per mile.

This little tour, therefore, compares very favourably with motoring.

LYMPNE MEETING

THE following races will be held at Lympne Aerodrome, Hythe, on Saturday, September 18, 1926, the concluding day of the Light Aeroplane Competition, 1926:—

The Society of Motor Manufacturers' and Traders' Prize (Two Hundred Guineas).—This race will be open to the aeroplanes taking part in the Light Aeroplane Competition which shall have accomplished at least 50 per cent. of the course in the competition. The race is over a distance of approximately 100 miles. The aeroplanes will be handicapped on a time allowance basis. No further entry form is required. Entrance fee £2.

Grosvenor Challenge Cup Handicap (Prize £100).—The aeroplane and engine must have been entirely constructed in the British Empire. The weight of the engine must not exceed 275 lbs. The entrant and pilot must be British subjects. The entrant must be an individual and not a company. The race is over a distance of approximately 100 miles. The aeroplanes will be handicapped on a time allowance basis. Entry fee £2.

Entries to be made to the Royal Aero Club, 3, Clifford Street, London, W.1.

Two-Seater Light Aeroplane Competition, 1926.—Supplementary Regulations—II

1. All tanks, filter caps, and carburettor float chamber covers must be provided with lugs or some other efficient means of facilitating sealing.
2. In case of a landing away from Lympne Aerodrome, a full report of the circumstances must be made in writing to the Chief Marshal on the return of the aircraft to Lympne.

ROYAL AIR FORCE MEMORIAL FUND

A MEETING of the Executive Committee of the Fund was held at Iddesleigh House on July 28. Lord Hugh Cecil, P.C., M.P., was in the chair.

The usual financial statements were laid before the Committee, and the Hon. Treasurer took occasion to remark that it was regretted subscriptions and donations were coming in rather slowly.

The attention of the committee was drawn to the laying of a wreath at the foot of the R.A.F. War Memorial on the Victoria Embankment, at 12 noon on the July 2, by a deputation of officers of the French Naval and Military Aviation Services, as a token of respect to the fallen of the Royal Air Force, and a letter of warm appreciation of this kindly act was drawn up by the chairman on behalf of the committee.

An offer of help was received in respect to a proposed publication shortly of a series of poems and verses applicable to units of the Royal Air Force, any profits arising out of such publication being devoted to the purposes of the fund. The offer was gratefully accepted.

The committee adjourned for the summer vacation until October 13.

ALAN COBHAM ARRIVES IN AUSTRALIA

Just over five weeks after leaving England Mr. Alan J. Cobham arrived safely in Australia, thus successfully accomplishing yet another of his remarkable long-distance flights. He left England on June 30, in the same D.H.50J (Siddeley "Jaguar") machine on which he had previously made the London-Cape Town-London flight (also the same D.H.50, but with Siddeley "Puma" engine, used on the London-India-London flight), except that it had been fitted with Short all-metal floats. On August 5 he reached Port Darwin the most northerly point of Australia, having covered a total distance of about 10,000 miles.

Readers of FLIGHT will, we feel sure, join us in offering hearty congratulations to Mr. Cobham and all concerned at the successful conclusion of this first stage of the big flight, which has been a most difficult one, bad weather conditions having been encountered almost the whole way—to say nothing of the regrettable delay caused by the death of Mr. Elliott who accompanied Mr. Cobham at the start. The D.H.50J seaplane, with its Armstrong-Siddeley "Jaguar" engine and Short metal floats have undoubtedly proved themselves equal to the task.

Last week we left Mr. Cobham and Sergt. Ward—who took the place as engineer of the late Mr. Elliott—at Sourabaya, Java, with 1,700 miles ahead of them before reaching Australia. The day following their arrival at Sourabaya, August 3, they proceeded on this final leg of the big flight, and reached Bima, about 450 miles on, the same day. On August 4, after some difficulty in refuelling, owing to a heavy sea, they made another 450 miles to Kupang, on the island of Timor, and the next day set out on the 500-mile jump across the open sea to Port Darwin.

Cobham set a compass course of 450 miles for Bathurst Island, and struck his objective within five miles. He then steered southward and landed in the harbour at Port Darwin at 1.40 p.m., where they were greeted by much siren blowing from the ships in harbour. They took 6½ hours on this trip, against a strong head wind, and flew most of the time some 20 ft. above the water. Large crowds of people gathered together to give them an enthusiastic welcome, and Mr. Bruce, the Australian Prime Minister sent a telegram, on behalf of the Australian Government, congratulating Mr. Cobham on the successful accomplishment of the first half of his flight to Australia and back, stating that he had "made a valuable contribution to British Aviation."

H.M.S. "Geranium" was in attendance to render assistance at Port Darwin, and Col. Brinsmead, Director of Civil Aviation in Australia, had flown over from Melbourne, in a D.H.50, to meet the airmen. Just before Cobham landed he paid tribute to a fellow pioneer airman by flying round the Ross Smith Memorial.

Two days were spent at Port Darwin in overhauling the D.H.50J and fitting wheels in place of the floats, as the flight to Melbourne is to be carried out overland. This alteration accomplished, the machine was flown off the beach and landed on the aerodrome, where Sir Ross Smith landed during his flight to Australia in 1919. Early on August 8, a start was made for the trans-Australia portion of the journey. A little over two hours later they landed at Katherine Waters, refuelled, and set out again for Brunnette Downs. They passed over Newcastle Waters, but did not land, and, owing to a strong head wind and doubt as to the route, they returned after continuing a short distance and landed at Newcastle Waters for the night.

The next day they proceeded to Brunnette Downs, where they refuelled before finally making Camooweal, the terminus of the Queensland and Northern Territory Air Service.

It may, perhaps, be of interest if we give a log of the progress made during the England-Australia stage, which is as follows:—

June 30	..	..	Rochester, England-Naples.
July 1	..	..	Naples-Athens.
" 3-4	..	..	Athens-Baghdad.
" 6	..	..	Baghdad-Basra
			(Fatal accident to Elliott.)
" 13	..	..	Basra-Bushire.
" 14	..	..	Bushire-Bandar Abbas.
			(Delay, bad weather.)
" 18	..	..	Bandar Abbas-Charbar-Karachi.
" 20	..	..	Karachi-Bahawalpur.
" 21	..	..	Bahawalpur-Delhi.
" 22	..	..	Delhi-Allahabad.
" 23	..	..	Allahabad-Calcutta.
" 24	..	..	Calcutta-Akyab.
" 25	..	..	Akyab-Rangoon.
" 27	..	..	Rangoon-Victoria Point.
" 28	..	..	Victoria Point-Penang.
" 29	..	..	Penang-Singapore.
" 31	..	..	Singapore-Muntok.
Aug. 1	..	..	Muntok-Batavia
" 2	..	..	Batavia-Sourabaya.
" 3	..	..	Sourabaya-Bima.
" 4	..	..	Bima-Kupang.
" 5	..	..	Kupang-Port Darwin, Australia.

Sir Charles Wakefield has arranged to pay to Mrs. Elliott, whose son was shot by a wandering Arab while acting as Mr. Cobham's mechanic in his flight to Australia, an annuity of £100 in recognition of his service and heroism in the cause of British aviation.

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□ Nippon's Royal Prince
 □ Flies : As reported in
 □ FLIGHT recently, His
 □ Imperial Highness
 □ Prince Chichibu, the
 □ second son of the
 □ Emperor of Japan, ex-
 □ perience the pleasures
 □ of flying for the first
 □ time at the Stag Lane
 □ Aerodrome. Our
 □ photograph shows the
 □ Prince with Col. the
 □ Master of Sempill—
 □ his pilot—standing be-
 □ side a D.H. biplane
 □ fitted with a Siddeley
 □ "Jaguar" engine, on
 □ which one of his flights
 □ was made.

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □



THE ROYAL AIR FORCE

London Gazette, August 3, 1926

General Duties Branch

The following are granted short service commissions, in ranks stated, with effect from and with seny. of dates indicated:—*Flying Offr.*—H. E. Power; July 24. *Pilot Offrs. on Probation.*—J. W. O. Fuller; July 27. W. G. Cheshire; July 28.

The following *Pilot Offrs.* are promoted to rank of *Flying Offr.*:—F. C. Rowland; May 15. H. C. Macphail; May 22. S. H. V. Harris; June 17. R. J. A. Ford; June 17.

Flight-Lieut. G. I. Thomson, D.F.C., is transferred to Res., Cl. A; Aug. 4. *Flying Offr.* D. E. Godwin relinquishes his short service commn. on account of ill-health; Aug. 4. *Flying Offr.* A. P. C. Hannay, M.C. (Lieut., Cameron Highlanders), relinquishes his temp. commn. on return to Army duty; July 28.

Accountant Branch

Flying Offr. E. K. Greenhow, M.C., is dismissed the Service by sentence of Field General Court Martial; June 2.

Medical Branch

J. O. Priestley, D.M.R.E., is granted a short service commn. as a *Flying Offr.* for three years on the active list, with effect from and with seny. of

July 13. The following *Flying Offrs.* are promoted to rank of *Flight Lieuts.* on promotion to rank of temp. Capt., Gen. List, Army:—A. Rhodes; Mar. 14. H. R. Peek; Mar. 20. N. F. Smith; Mar. 28.

Flight Lieut. A. W. Comber relinquishes his temp. commn. on ceasing to be employed; July 24.

Reserve of Air Force Officers

H. Bradley is granted a commn. in Cl. A.A.—Gen. Duties Branch as a *Pilot Offr.* on probation; June 7. (substituted for *Gazette*, June 22.) The following *Pilot Officers* are promoted to rank of *Flying Officer*:—E. B. Fielden, H. Rhodes, L. S. Webb; April 13. G. P. Macdonald; May 26. A. Gillespie; June 9. T. E. Greenough; June 16. *Flying Officer* G. S. Fenwick is transferred from Class A to Class C; June 19. The following *Flying Officers* relinquish their commissions on completion of service (July 31):—F. E. Hills, W. H. Oatley.

AUXILIARY AIR FORCE

General Duties Branch

The following to be *Pilot Officers*:—No. 600 *City of London (Bombing) Squadron.*—G. W. H. Wallcousins; Aug. 3. No. 603 *City of Edinburgh (Bombing) Squadron.*—L. J. Blake; July 24.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Wing Commander E. R. Manning, D.S.O., M.C., to R.A.F. Depot, Uxbridge, pending disposal, 3.8.26.

Squadron Leaders: J. V. Steel, O.B.E., to No. 20 Sqn., India, 23.7.26. G. C. Bailey, D.S.O., to Aircraft Depot, India, 23.7.26. J. B. Cole-Hamilton to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 12.6.26.

Squadron Leaders: W. J. Y. Guilfoyle, O.B.E., M.C., to H.Q., Wessex Bombing Area, Andover, 27.7.26. G. F. Breese, D.S.C., to Inspector of Recruiting, 3.8.26. C. G. Burge, O.B.E., to Air Ministry, 3.8.26. C. F. Gordon, O.B.E., M.C., D.F.C., to No. 1 Flying Training Sch., Netheravon, 19.8.26.

Flight Lieutenants: F. G. Brockman to Station H.Q., Spittlegate, on transfer to Home Estab., 27.7.26. F. H. E. Reeve to R.A.F. M.T. Depot, Shrewsbury, 30.7.26. A. L. A. Perry-Keene to Station H.Q., Bircham Newton, 17.7.26. A. M. Wray, M.C. D.F.C., A.F.C., to R.A.F. Training Base,

Leuchars, 19.7.26. W. Catchpole, A.F.C., to No. 1 Stores Depot, Kidbrooke, 26.7.26. R. W. Dawes to H.Q., Inland Area, Stanmore, 19.7.26. A. T. Laing to Home Aircraft Depot, Henlow, on transfer to Home Estab., 19.7.26. N. W. Wadham to R.A.F. Transjordan H.Q., 24.7.26.

Stores Branch

Flight Lieutenants: E. E. Porter, M.B.E., D.C.M., L. A. Lavender, and E. W. Lawrence, to R.A.F. Depot, Uxbridge, 9.8.26.

Flying Officers: A. M. Reidy, to R.A.F. Depot, Uxbridge, 9.8.26. H. D. Giblett, to No. 12 Sqn., Andover, 27.7.28.

Pilot Officer F. W. Felgate to Home Aircraft Depot, Henlow, 22.7.26.

Accountant Branch

Squadron Leader P. J. Wiseman to Home Aircraft Depot, Henlow, 10.8.26.

Medical Branch

Squadron Leader T. J. Thomas, M.B., to R.A.F. Hospital, Cranwell, 30.7.26.

Flying Officer J. D'I. Rear to R.A.F. Depot, Uxbridge, 26.7.26. J. D'I. Rear to School of Army Co-operation, Old Sarum, 27.7.26.

IN PARLIAMENT

Casualties

MR. VIANI, on July 28, asked the number of British aeroplanes which have been wrecked during the last year from June 30, 1925, to date; how many of these aeroplanes were new and how many were machines with reconditioned war-time engines; the estimated value of these machines; the number of men injured and the number of men killed during the same period; and how these casualties compare with those in the air forces of other countries?

Sir S. Hoare: As regards the first two parts of the question, 70 aeroplanes of post-war design and 192 of War design were written off Air Force charge after crashing during the period June 30, 1925, to June 30, 1926.

As regards the third part, the undepreciated value of the machines involved in these crashes was, roughly, £500,000; the value of parts salvaged cannot be estimated without undue labour.

As regards the fourth part, the numbers of Royal Air Force personnel killed and injured in flying accidents during the same period were 65 and 89 respectively. In addition, two Army officers and two officers of the Royal Air Force Reserve were killed.

As regards the last part, these casualties compare favourably with those of other air forces.

East Africa and Air Communications

MAJ. ROPNER asked the Secretary of State for Air whether, in view of the fact that the colonies of Kenya and Uganda and the Sudan are combining financially with the object of running a six months' survey between Kisumu and Khartum to establish a permanent air service between these places, and to connect up with the England to India air service, in view of the far-reaching importance of the Cairo to the Cape route, the Government will give financial help to encourage the colonies in their efforts to speed up Imperial communication, in accordance with the declared policy of assisting air line development?

Sir S. Hoare: The proposed twelve months' experimental air service between Khartum and Kisumu has been arranged without any guarantee of assistance from Air votes. If, as I hope, this experimental service proves successful, and it is decided to institute a permanent service, the relation of this service to the projected Egypt-India service, the grant of financial assistance, whether in the form of a subsidy or otherwise, and the source from which such assistance shall be furnished, will, of course, receive careful consideration. In this connection, I may say that the question of Imperial air routes and their future development is one of the subjects to be discussed with the Dominion representatives, including those of South Africa and Southern Rhodesia, at the forthcoming Imperial Conference.

Airship Guarantee Co.

MR. VIANI asked the Secretary of State for Air what amount has already been paid to the Airship Guarantee Co. in respect of the £50,000 voted towards the capital expenditure incurred in the construction of the new 5,000,000 cubic ft. airship R.100, and in respect of the actual cost of the construction of the airship, respectively; and how far the construction of this airship has advanced?

Sir S. Hoare: As regards the first part of the question, the whole of the £50,000 voted towards the Airship Guarantee Co.'s capital expenditure on shed, plant, etc., together with £100,000 as a first instalment of the contract price of the airship, was paid to the company on the signature of the contract. As regards the second part, I am informed that the company have completed the tests considered necessary before passing from the stage of design and research to that of construction, and are now making the girders for the hull of the airship.

International Air Convention

MAJOR-GENERAL SIR FREDERICK SYKES, on July 29, asked the Secretary of State for Foreign Affairs whether his attention has been called to the fact that the terms of Articles 5 and 34 of the International Air Convention are an obstacle to the adherence to the Convention of the States of Denmark, Spain, Finland, Norway, the Netherlands, Sweden and Switzerland; whether he is aware that protocols of amendment of these articles were adopted by the International Air Commission in October, 1922, and June, 1923, respectively; what ratifications are still necessary to make the protocols operative; and,

having regard to the objections of the German Government to the present terms of these articles and to the desirability of securing transit of civil aircraft across Europe under uniform conditions of international agreement and regulation, what diplomatic action is being taken by His Majesty's and other Governments to secure these ratifications?

Viscount Curzon: I have been asked to reply. The answer to the first and second parts of the question is in the affirmative. As regards the third part, the ratification of the Kingdom of the Serbs, Croats and Slovenes is the only one now outstanding. As regards the last part, His Majesty's Representative at Belgrade has been for some time in communication with the Jugo-Slavian Ministry of Foreign Affairs upon this subject. According to the latest report at the beginning of this month the necessary legislation has been submitted to the Belgrade Parliament, but the House is not expected to meet before 15th September. I understand that representations have also been made by the French Government through diplomatic channels.

Civil Aviation and Empire Co-Operation

MR. RAMSDEN asked the Secretary of State for Air how far the various Governments of the Empire have, since the Imperial Economic Conference reported on the question in 1923, co-operated in the dissemination of information regarding experiments and new schemes for the development of civil aeronautics; and what have been the practical results of Empire co-operation?

Sir S. Hoare: A system is in force for the regular interchange of information between India, the Dominions, the Colonies and Great Britain, by means of "liaison letters" relating to developments in civil aviation, both technical and general, and of the mutual exchange of periodical and recurrent publications. The results obtained have been of considerable value, and should prove to be still more important in the future. A good deal of information will be found with regard to Imperial air development in the Annual Report on the Progress of Civil Aviation recently presented to Parliament (Cmd. 2707).

R.A.F. Fatal Accidents

COLONEL ENGLAND asked the Secretary of State for Air the total number of fatalities to members of the Royal Air Force since January 1, 1926, indicating the countries in which these fatalities have occurred, and the causes, so far as they are known, of the different accidents?

Sir S. Hoare: On the assumption that the hon. and gallant Member, requires particulars of fatalities in accidents of all kinds, they are as follow for the period January 1 to 27 July, 1926:—(a) Deaths due to flying accidents, 44; deaths due to other accidents, 14. (b) The number of flying accidents was 25.

Air Policy

COMMANDER BELLAIRS asked the Secretary of State for Air if, in view of the probability of the question being raised in the League of Nations, he can state in what countries in the world is civil aviation under the control of a military administration?

Sir S. Hoare: It would not be practicable within the limits of an answer to a question to state the varying methods of provision for the administration of civil aviation in foreign countries. Some information on this subject will be found in the section on aviation in various countries in Part II of the Annual Report on the Progress of Civil Aviation, 1925-26 (Cmd. 2707), and in the previous half-yearly and annual reports, a list of which is contained on page 4 of that publication.

Commander Bellairs asked the Prime Minister if he is aware that we do not hold a single record in aviation; and, having regard to our records in other directions of mechanical transport such as shipping, motors, and motor bicycles, and in war-time aviation, he will have the matter of aviation control impartially inquired into by a public committee?

The Prime Minister: The answer to the first part of the question is in the affirmative. I fail, however, to see any connection between the winning of records, which ordinarily fail to machines specially designed or modified for racing purposes and not suitable for general use, and the present air policy of His Majesty's Government, which aims at securing an efficient air service and establishing civil aviation on a commercial basis as early as possible. The answer to the second part of the question is therefore in the negative.

CORRESPONDENCE

The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.

SPEED AND USEFUL LOAD

[2144] As the friendly discussion between Mr. Simmonds and myself was started by Mr. Simmonds' attack on our formula in your number of April 8, I hope you will grant me still the opportunity for a last word in answer to his remarks in your number of July 29.

When, in a discussion of this character, one of the parties begins to question the solidity of the arguments used by his opponent and simply decrees—without an endeavour to prove his point—that they belong to the class of "flimsiest arguments," I believe it is time to stop, as then there seems but little hope that a further prolongation *ad infinitum* of the discussion will lead to mutual understanding.

We will, therefore, have to leave the judgment of our respective opinions to others:

Mr. Simmonds maintains, that—provided an aeroplane fulfils the condition of a certain minimum speed—its merits should be judged solely by the factor: *load carried per horse-power*.

On the other hand, our opinion is that in aerial transport the factor *speed* is of such value that it may not be relegated to a secondary position. It should not be over-estimated, but neither should its value be under-estimated.

This difference of opinions comes to this: Suppose that in Mr. Simmonds' opinion an aeroplane should have at least a speed of 100 m/h. and let us take two machines, with same *horse-power*, both fulfilling this condition, but of which one carries 10 per cent. less load than the other.

Mr. Simmonds' judgment is given.

On the contrary, we are of opinion that if the machine with the higher load has a speed of 100 m/h., while the speed of the one with the lesser load is 11 per cent. higher, these two machines may be judged as of equal merit, and if the aeroplane with the lesser load should have a speed of more than 112 m/h., it would be better than the other, in the eyes of the user.

And why? Because you have always the full advantage of the factor speed on any trip made, whereas you will only occasionally have the opportunity of taking full advantage of the 10 per cent. greater load.

No vehicle of transport is always loaded to its fullest capacity but air-travel is essentially speedy travel. Its great advantage against all other modes of transport lies in its speed and you will always have the benefit of that with the faster machine.

I feel confident that the majority of those who have to do with air-transport will not pass such a severe judgment on our operational efficiency formula: *useful load per horse-power* \times top speed, as Mr. Simmonds has done.

May I take advantage of this occasion to tender my thanks to the Editor for his courtesy in permitting me to take up so much valuable space in the columns of **FLIGHT**.

B. STEPHAN

N.V. Nederlandsche Vliegtuigenfabriek "Fokker,"
Amsterdam, August 4, 1926.

A Short Course in Elementary Meteorology

"A SHORT COURSE IN ELEMENTARY METEOROLOGY," by W. H. Pick, B.Sc. (second edition, revised), presents, in non-mathematical form, and assuming no previous knowledge, an elementary yet comprehensive treatment of the subject of meteorology. It is divided into three parts—Part I, dealing with general meteorology; Part II, with synoptic meteorology; and Part III, with the upper air. Under the heading of "General Meteorology," explanations are given of the theory underlying such meteorological phenomena as winds, fog, frost, clouds, rain, snow and hail, whilst under the heading of "Synoptic Meteorology" occurs a full treatment of the making, interpretation and use in forecasting of weather maps, together with a chapter on special phenomena, including line squalls and thunderstorms, and another on weather lore. The third section—that of the "Upper Air"—contains discussions on the variation of temperature, wind and density, with altitude, including several tables giving upper air data to great heights. It concludes with a brief reference to the recent and fascinating work done on the constituents of the high atmosphere. The book is illustrated throughout with maps and diagrams, and contains an appendix giving advice on further reading

in the subject. This is the second edition of the earlier volume published in 1921, and represents a complete revision and bringing up to date of the earlier edition together with additional matter. Copies can be obtained from all branches of H.M. Stationery Office, or through any bookseller, price 1s. 6d. net, postage 2½d. extra.

PUBLICATIONS RECEIVED

Scientific Papers of the U.S. Bureau of Standards: No. 525.—A Unicontrol High-Frequency Radio Direction Finder. By F. W. Dunmore. April 16, 1926. United States Government Printing Office, Washington, D.C., U.S.A. Price 5 cents.

Aeronautical Research Committee Reports and Memoranda: No. 985 (Ae. 197).—The Reduction of Aircraft Performance Tests. By R. S. Capon. June, 1925. Price 1s. 3d. net. No. 998 (E. 16).—Gaseous Combustion at Medium Pressures. Part I. Carbon Monoxide-Air Explosions in a Closed Vessel. Part II. Methane-Air Explosions in a Closed Vessel. By R. W. Fenning. May, 1925. Price 1s. net. No. 999 (Ae. 206).—Step-by-Step Calculations upon the Asymmetric Movements of Stalled Aeroplanes. By Prof. B. M. Jones. October, 1925. Price 1s. 9d. net. No. 1010 (Ae. 216).—On the Effect of the Walls of an Experimental Tank on the Resistance of a Model. By H. Lamb. January, 1926. Price 6d. net. No. 1020 (Ae. 221).—The Behaviour of Certain Aeroplanes when the Controls are Abandoned in Stalled Flight. By H. L. Stevens. November, 1925. Price 9d. net. H.M. Stationery Office, Kingsway, London, W.C.2.

Annual Report on the Progress of Civil Aviation, April 1, 1925—March 31, 1926. (Cmd. 2707.) Air Ministry, Directorate of Civil Aviation. H.M. Stationery Office, Kingsway, London, W.C.2. Price 2s. net.

NEW COMPANY REGISTERED

THE FAIREY AVIATION COMPANY, LTD.—Capital, £10,100, in £1 shares (10,000 preference and 100 ordinary). The preference shares rank first for a cumulative dividend at 7 per cent. per annum, and, in a winding up, for return of capital and arrears of dividend. Objects: to adopt an agreement with a company of the same name (incorporated in 1925) and its liquidator; to manufacture, buy, sell, etc., waterplanes, aeroplanes and aerial conveyances, etc. (including engines). Directors: C. R. Fairey, F. G. T. Dawson, C. Crisp, Lieut.-Col. V. Nicholl, D.S.O., D.S.C., M. Wright. The three first-named are permanent Solicitors: Ashurst, Morris, Crisp and Co., 17, Throgmorton Avenue, E.C.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

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19,323. F. H. PAGE and H. PAGE, LTD. Bomb-dropping release gears. (255,240.)
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20,444. F. G. PHILLIPS. Apparatus for reducing fire risk on vehicles carrying liquid fuel. (255,249.)

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- 4,354. W. BEARDMORE AND CO., LTD., and R. LOVE. Fuel-injection valves for i.c. engines. (255,350.)

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